ABHISHAR

VOL 8.0

"Friends, Fun and Dreams"

TEAM PATRON

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Editor Writes

Over a span of eight years, Abhishar has grown from the echelon of a magazine to being the voice of students and alumnus of IIITM. This journey began only because someone at some point of time, dreamt of making Abhishar a reality. As our former president and scientist, Dr. A.P.J. Abdul Kalam has said "Dream is not that which you see while sleeping it is something that does not let you sleep". This year, we intend to dedicate Abhishar to every such dreamer out there, to the ones who reach out for the stars, both literally and metaphorically. Our theme 'INTO THE COSMOS' is a tribute to all the space exploratory missions, extraterrestrial intelligence search, planetary missions and much more that the human race has envisioned and carried out, symbolizing to the masses the message of 'dream big and make it happen'. Abhishar stands on the foundation of memories and ideas of our dear friends -- Lt. Abhinav Saxena and Lt. Tushar Sharma. It is from the sparks they have ignited that we gain zeal and energy to craft each and every edition of Abhishar. We have put together a set of wonderful literary and artistic works by the IIITM fraternity in the sections: Geeks' corner, a magic door to the world of technology and new trends in it; IIITM street, a bunch of memories and experiences from the campus; Lifestyle, for the free spirit to express themselves; Career mantra, to share experiences and act as a guide to the world outside the campus; Abhivykati, to raise voice against as well as speak for any socially relevant issue. We have tried our best to put together a piece of work worth reading and experiencing. Nevertheless, the success of Abhishar is only possible because of the encouragement we receive from its ardent readers. We hope that this version of Abhishar proves to be a worthy read. We walk with determination but can realign our goals only from valuable feedback from our readers. Do reach out to us to provide any such feedback or suggestion.

Happy reading!

-Haritha Nair

Director's Note

I am happy to know that 8th volume of "Abhishar" is coming out. Volume-by-volume, it is contributing to the enhancement of students' creativity. The articles are a testimony to the students' interest in emerging technology, campus life and in general, society. It is the fruitful outcome of tremendous efforts put in by the students' team. "Abhishar" has become a vibrant and creative medium to vent out innovative spirit of the students' community of ABV-IIITM.

Prof. S.G.Deshmukh
Director, ABV-IIITM

Registrar's Note

I am happy to know that students' team is very active to publish 8th volume of "Abhishar". Abhishar imbibes thoughts and ideas of authors expressed in the form of words and pictures. The name and fame of an institute depends on the caliber & achievements of the students. This magazine showcases the strength of our institute. Let this be a forum to exhibit the potential of students through their literary skill and innovative ideas.

Mr., R.P. Dwivedi
Registrar, ABV-IIITM

FACULTY SPEAKS

With extreme delightment, I extend my warm wishes for the huge success of Abhishar's eighth edition . It is an appreciable platform to peep into the thoughts and minds of the students. It presents information about the latest evolving technologies, cherished experiences and captivating ideas in a deviceful manner.

Dr. Joydip Dhar
Associate Professor, ABV-IIITM

I am delighted to write about the eight edition of ABHISHAR. Earlier editions of ABHISHAR have been well received over these years. It is my hope and expectation that ABHISHAR will continue to provide a fun filled experience to its readers. I congratulate the team for editing this edition.

Dr. K.K. Pattanaik
Associate Professor, ABV-IIITM

It is commendable that ABHISHAR has completed a long journey. Thought provoking articles and in depth analysis of contemporary topics have become a reflection of hardwork, commitment and sincere professionalism of the entire team. I have every hope that this effort will continue to play its able part in the coming years as well.

Dr. Saumya Bhadauria
Assistant Professor, ABV-IIITM

After reading the last edition of Abhishar, I got hooked. It pitched on connecting the hearts of our young students but, more to the point, it expressed the right blend of ideas, experiences, innovations and feelings. I very much believe that the upcoming edition of Abhishar will definitely occupy an important place in my personal library, and will touch everyone's heart, mind and soul immeasurably as well. My sincere thanks to all the contributors for such a good magazine.

Dr. Anuraj Singh
Assistant Professor, ABV-IIITM

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INTO THE
COSMOS

ABOUT AASF & EVENTS

Being in an ever changing world with technology galloping at a pace never seen before in history, the forum is laboriously engaged in organizing a variety of formal and informal events every year, which guide the students to adapt better in techno-managerial world. Activities are based on the concept of peer to peer learning.

Technical Events

Windows basics, MS Office Linux and Hardware: Sessions/Workshops helping students understand the basics of computer science and IT.

Programming Languages: Constitutional knowledge of the essential programming languages including C, C++, Java and Python.

Web Desgining week: Aquaintance to basic and advanced web development techniques such as HTML, CSS, PHP, SQL, JAVASCRIPT.

Photoshop: Knowledge of inducing pleasing effects to images using the functional tools.

AASF-ICPC,Codehub and Junior PCs :
Frequent Programming contests conducted in the format of ACM-ICPC to provide a perfect platform to practice

Literary & Oratory Events

JAM: A fun buzz event in which participants have to speak without hesitation, deviation ad repetition and are challanged by their opponents.

Group Discussion: An event involving a lot of group dynamics to enhance the students' literal charms and issue analysis skills.

Block and Tackle: An event consisiting of keeping a topic at centre of consideration and discussing pros and cons.

Composition de l'Image:This involves formation, narration and enaction of stories entrenched in pictures.

Managerial Events

Case Study hIQ: Managerial concepts to handle stories which present realistic complex and contectually rich situations that often involve dilemma and conflicts.

Case Study Contest: Aimed at improvising the ability of analysing, exploring, innovating and thus rendering applicable solution to a point at issue.

Quizzes: Quizzing events to help students remain updated to the recent advancements in the fields of business, IT and sports.

Brand Aid Contest: Event to provide an oppurtunity to blend creativity with originality and endorsing a product by elaborating its attributes and influencing the folks.

EVENTS
and
hIQs

FOMO \o/ maybe

Riya Naval
IPG-2011

In a quarter of a century that my eyes have seen, I have always felt to be 'Not Fitting' in the standard templates that appeal to others. Most of the time its either someone telling me how they are fluid with all the 'COOL' things that are 'IN' right now or its me questioning why on earth do I not feel like going along with these things. Whatsoever, it's the gut feeling of Fear of Missing Out that often rubs people in their faces whenever they choose ways drifting from the generic standards. But how valid is such a fear to let you make a decision related to your career?

Maybe you did not get the complete idea of how such a feeling can direct your decisions in one of the most important questions of your life. In one of my friend's work-place, fresh-men in their initial training weeks were given a choice between the domains of 'Machine Learning' and 'Normal Coding', as they had put it. About 70% candidates interested in 'Normal Coding' initially preferred to switch to 'Machine Learning' because some of their peers had made the intelligent choice of taking up "Machine Learning". Many of them eventually shifted back to their initial preferences because of lack of appeal in Machine Learning and to modestly put, the lack of will to study so much without it being up to their liking; some contin-

ued as their liking rested in that place.

A third category of people were the hesitant lot, the ones to whom the choice was not absolutely appealing but stayed because of FOMO; because a lot of people said machine learning is the future. Maybe this Fear of Missing Out was not based on a social contract of coolness but of financially secure choices. Now obviously in career options such a feeling will always be in grey area. For some it will work while others will keep on toling themselves to respectfully fit in and put in extra effort to be at par with others, while not really enjoying something that ideally most of them shall have to put up with for a decade or two, until they move on to things they really appreciate.

To get a better picture, we all have seen people egging others on ideas they firmly believe in. We all have one uncle always telling "Amway ka partner seller banna is the best choice", or the cool cousin casually putting the idea of "Stock me pesa dalna is smart", or the most common omni-advice "Government Job best hai". Obviously we are smart, independent folks with all the world at the back of our hands; so definitely such ideas don't charm us. But as soon as one 'IIT waale senior' says "Entrepreneurship", all the

adrenaline in the universe floods our heads, pooling in all our geeky vibes, risk taking macho swag, dedication and what not. Surely for some it is the right choice but still a huge percentage of us youngsters are often unable to differentiate if we really like something or our impulses are a mere result of the ideas that the social media has both sold to us and dictated us to go with.

Now one should definitely try new things, because you never know what might make you feel the zing, and such experiments are what shape you. One should reel with all sorts of self-sustaining options possible at hand. Maybe for a day freelancing is the answer, maybe for another it is your own child product, but all of these ideas should be given appropriate thought. Mostly the initial years can go through this frisking with merely any consequences but once when you really feel like settling in with an ideal choice that is the time you start respecting your ideas. And by respecting, I mean valuing the input from your brain or your guts. Nurture each "Genuinely Sustainable" idea by putting deep thought to it by analyzing all the pros and cons, obviously needless to put, discarding the ideas purely fueled by FOMO. 🧑‍🚀

Riya Naval (IPG-2011) is currently working as java developer at HCL.

Optimistic nihilism: Finding purpose in a meaningless life

**Utkarsh Dwivedi
BCS-2017**

On the timeline of this universe which is approximately 13.8 billion years old, the first of us came into existence just a few thousand years ago. The how and why it happened are still apparently unknown. We made earth our home and started enjoying everything it had to offer. Life was good, we killed other animals for our survival and vice-versa happened to us as well. But as human intelligence increased, subsequently we realised that we were just living on a moist speck of dust moving around an average sized star, in a quiet region of an average galaxy that is part of a group of billions of galaxies that make up the galaxy cluster, that itself is a part of a group of clusters that make up the supercluster of galaxies, which as well comes together and forms this thing that we call our observable universe. So, why did I tell you about this vastness of the universe? Just to make you realise that you are insignificant and your life has no meaning, there was not any divine reason for which you were born, and there certainly won't be much difference when you die.

But you don't need to be disheartened by all these facts, this actually might be a good thing. The belief that nothing in life has real and permanent existence is nihilism and being positive about the same is termed as optimistic nihilism. Nihilism is often seen as a neg-ative philosophical stance but it's the most scientific one. Nihilism also advocates rejection of all religious and moral principles. Morality is necessity of human society, so this area of nihilism does raise some questions. All things considered, optimistic nihilil-ism is acknowledging the lack of meaning and purpose of life and embracing it. As Jean-Paul Sartre wrote – "We are left alone without excuses" and we are surely going to die alone.

Optimistic nihilism is understanding that you are just a speck of dust in cosmic vastness and your life has no purpose and there's no one controlling it, which puts the controller of your life into your own hands and lets you dictate your own purpose. Hence, optimistic nihilism isn't depressing, it's liberating. Your life's purpose can be anything ranging from a decent normal life doing a 9-5 job and having a nice family, to a more determined one, solving the unsolved mysteries of computer science or unveiling the secrets of universe.

Actually, this is what is great about life, that it doesn't matter. No one has anything to prove, or anything to strive for. For life is nothing, all it may be is just an illusion (maybe a joke played by a 5th Dimensional being on his friend by implanting certain 3-D objects in his house). So why care about anything at all?

Did you see yesterday's cricket match – who cares? It probably was fixed or an illusion – but it surely was nail-biting and full of excitement. See that delicious dish that you always wanted to eat – who cares? It probably doesn't exist – but it sure tastes good and provides a sense of fulfilment. See all those humans you are in love with – who cares? They mayn't even be real and we might be a part of a computer simulation and everything may just be an illusion! Well yeah, but it still feels real and good to love and be loved. We can say that instead of searching for a divine meaning one should create short and simple purposes, like helping at least five people a week, spreading smile on the faces of others, striving for something that you feel is good for people and overall being happy about everything.

So just kickback, relax and enjoy yourself on this pointless and non-existent but undeniably awesome and fun ride of life knowing that it ends in a lethal fall, but you still ride to enjoy this journey, because it might be your single shot at life. So there's no reason why you shouldn't live it as happily as possible, live a little more, love a little more, explore things, watch great movies, play games and read lots of good books. 🚀

An introduction to the stock market

Shivani Mandeliya
IPG-2014

The sole purpose of this write-up is to throw some light on the big Indian stock market and how it works. Some of us are totally ignorant of stock market jargons and keep wondering what is SENSEX or NIFTY. We understand that the SENSEX is going up and down but how does it really work. What the hell is this SENSEX? I'll be writing about all such queries to help you understand the "big share market."

Every organization needs funds for its functioning. These funds are garnered from banks, promoters or shareholders. An organization gets funds from banking institutions via debt instruments. Bonds, debentures, commercial papers, government securities (G-secs) are some of the commonly used debt instruments. This process is called debt financing.

When funds are raised through the sale of shares it is called equity financing. Shares are basically units of ownership in a company. When you buy the shares of a company, you are actually buying ownership rights. Out of the company's earnings, a fraction is provided to its shareholders. This is known as dividend. Shares are of commonly two types:

1. Equity / Common shares: Gives voting rights, is risky. Gives profit when the company is earning profits.
2. Preference shares: Rate of dividend is fixed. Less risky. Dividend on these shares is paid in priority to the equity shares.

It is important to note that not everyone can buy ownership rights in any company. When a company goes public, it means anyone can invest and buy its shares. The purpose of going public is mainly to expand. The process when the company offers its stocks for everybody is called Initial Public Offering (IPO).

On the basis of amount of capital it wants to raise from the market, a company decides the amount of shares to be issued. The value of the individual shares is determined through various methods.

According to the asset approach –

Value per share = (Net Assets – Preference share capital) / Number of equity shares.

How the share market works?

Equity-financing process is governed by rules imposed by a regulating authority to safeguard investor and their investment. In India, SEBI (Securities and Exchange Board of India) regulates the whole share market.

There are four main participants in a share market:

1. Stock exchange
2. Brokers
3. Traders-investors
4. SEBI

Stock exchange is the platform where financial instruments like stocks and derivatives are traded. Once a company is listed in the primary market through IPO, the stocks are issued to investors according to their bid. The shares of a company continue to be traded after the IPO.

These issued stocks are then ready to be traded by the investors in the secondary market. In the secondary market, the transactions between the buyers and sellers occur to make profits. During trading, value of stock rises or falls.

Buying stocks or shares isn't like shopping clothes from a mall where you can pick up clothes and pay money at the counter. Because unlike malls stock exchanges are not in every corner. Stocks are bought from stock exchanges like New York Stock exchange. The two main stock exchanges in India are BSE (Bombay Stock Exchange) and NSE (National Stock Exchange). Others include Calcutta Stock Exchange, Ahmedabad Stock Exchange etc.

Stock brokers can counsel you about what and when to buy, offer advices about buying or selling, can execute orders for investors.

Buying and Selling

The broker passes your buy order to the stock exchange, which searches for a sell order for the same share. Once a match is found, the broker notifies you and the transaction is done. The share is debited to your DEMAT account. Similar-

ly you can sell your stocks.

You must have noticed a new term that I wrote in the previous sentence i.e., **DEMAT account**. Trading and DEMAT accounts are linked to one another. Trading account is used to place buy or sell order. Another account called DEMAT account is used which acts as a depository for your shares.

Suppose you go to a shop to buy a biscuit packet. You choose your choice of biscuit and finalize the transaction. You take out money from your wallet and pay the money. In this case, the wallet is trading account and you act as the DEMAT account.

To simplify, when you're buying, the required money is transferred from your savings bank account to trading account. Once the order is finalized, the money is transferred to the seller and the stock comes into your DEMAT account in dematerialized or electronic form.

When you're selling, the particular stock is transferred to trading account from DEMAT account. After transaction, the money earned is transferred into the savings account.

You need to open a trading and DEMAT account with the broker. Some of the famous brokerage firms in India are **Zerodha, ICICI, ShareKhan, Axis Direct** and so on.

Bear and Bull market:

Every day market goes up or down depending on various circumstances. When the market is upbeat i.e., stock values and indices are apreci-ating their value, it's called 'Bull Market'. A bull market is the result of an economy doing well – high GDP, stable government, low unemployment etc. People who are optimistic or believe that stock prices will rise are called bulls.

When the market is moving downwards i.e., stock prices are depreciating, it is called bear market.

Stock Market Index:

We have talked about market going up and down. This fluctuation in the market is evident through index movement in general.

What is this Index?

You may often hear that market is jumping or the market is falling. However if you read the stock table you will notice that only few stocks' value have changed. Then what does this falling or jumping of market mean? It actually refers to an index.

Stock market index acts as a barometer of the whole economy. Few companies are identified from those listed at the exchange. Some similar stocks are grouped together to form an index. This grouping is on the basis of industry type or the company size. The value of the index is calculated using the values of the underlying stocks.

Some important indices in India are:

1. Benchmark indices: BSE SENSEX and NSE Nifty
2. Sectoral indices: BSE Bankex , FMCG index and CNX IT
3. Broad-market indices like BSE 100 and BSE 500
4. Market capitalization based indices like BSE Smallcap and BSE Midcap.

BSE Sensex is made up of stocks of 31 well established companies like Axis Bank, Asian Paints, Adani ports, Bharti Airtel and so on.

These indices are used as a representative of the entire market. BSE SENSEX and NSE Nifty represent overall market performance. Similarly, CNX IT represents IT market. Some key events like declaration of monetary policy, inflation, PMI (Purchasing Managers Index), union budget, corporate earnings announcement etc. affect these indices.

So this was a brief introduction about the share market. When I say it is brief, it really means that there is so much more to learn about it. As an investor, you must have all the information. Only then you can decide how much money to invest, where to invest, what to sell, what to buy and most importantly how to save yourself from stock market fluctuations. Because it can make you richie rich in just a few days or can devastate you in minutes. So, read about the famous investment strategies and develop a strategy of your own. Maybe you don't need to invest money now but I am sure this knowledge won't go waste. It will definitely guide you in future. 🚀

Damsels in distress

Juhi Tiwari
IPG-2016

Once upon a time, in a land far away, a princess was held captive in a tower tall enough to touch the skies. It was guarded by a fierce red dragon that breathed fire and shone wings wide enough to cover the entire tower in a go. Only a true hero, a warrior of a kind could brave all the odds and save the beauty. He must fight the dragon, find the princess, kiss her to wake her up from her eternal sleep and then happily live ever after.

Does it ring any bells? Well, this is the classic overview of every fairy tale that we have been reading and watching since our childhood. And although it might seem to be just another group of words written in a colourful book, the effects of these tales are much more than that. Imagine a 5 year old being told the magical story of Cinderella, a girl whose only virtue is that she can listen to the rants of her stepmother and stepsisters without complaining, cook delicious food, can talk to animals and wait for the handsome prince to bring her the glass slippers and save her from her misery. Really Cinderella? Could you not just raise your voice once, take that talent of yours of singing and sewing and lead a happy life on your own? Well we have just sown the seed of a "happy and magical" life in the mind of the

mind of the kid! The same kid now watches a movie of the beautiful princess Aurora, whose "hair are like sunshine" and "lips so red that even roses are ashamed". Literally all Aurora does to receive a "true love's kiss" is be beautiful and sleep like a child. Not to forget the prince should be blonde, macho and handsome enough, so that as soon as Aurora opens her eyes she has to fall in "love" with him. Well even light ain't that fast, dear Aurora!

The next day the kid reads the story of Snow White in his english class. Every dwarf is a hapless dummy who lives like a nomad. It's after Snow White comes in their life that they are "saved" by her dusting, cooking, washing and tidying. So you get the idea that men are hopeless and if it weren't for a woman they would die in that dirty pile of clothes. Knock knock cute dwarfs, apparently you never learned these from your mother, because hey, it isn't your work right?

He also comes to know that all men are supposed to protect and be the saviours of the princess. Prince Eric and Phillip are the ideal men who can never lose and only by saving a woman can you be a true man.

Well the only gift a princess can get from fairy Godmothers is the gift of singing, as if strength, courage and wits are not in the spell book. And ap-

parently, the only gift a prince could get is of muscles as if singing drains your strength. This isn't going to be just another article focussing on typical women roles, but my take on how both genders suffer from these ideologies especially boys, who are often ignored because 'hey they are strong, they do not need anyone else raising voice for them'!

The idea that the kid has gotten is now going to shape his personality. For him his girlfriend should be an Indian version of Aurora, as gentle as Cinderella, who can take care of him like Snow White. While his friend, the girl at the next bench wants to be this perfect princess who is in the hope that one day she would get the prince of her dreams and they would live happily ever after.

In reality, a damsel in distress isn't a princess in a dragon heated fort. You are a damsel, if you are bound by the limits set up by conventional society rules. To all the boys, when was the last time you cried at the top of your voice and weren't judged by people? When was the last time you could freely ask a woman for her help and weren't termed as less manly? When was the last time you weren't mocked when you said pink is your favourite colour?

To all the girls, when was the last time, you rode a horse and weren't termed as less feminine and more of a tomboy? When was the last time, you said you

don't know how to cook and people taunted "what would you do after marriage?"

Since in this 21st century, we can't afford to put people in towers, breed humongous dragons and invent sleeping needles, we have come up with a new way to stereotype genders. A man isn't a man until he has got muscles and a woman isn't a woman until she has a sweet voice. For every tear of a small boy, there are ten people saying, "Boys don't cry, shut up!" For every jar he cannot open, a couple of friends will always mock him, "How will you impress your crush?". For every seat you are not giving up even in the general compartment because you are also a human and must be tired too, there is always an aunty gossiping, "What sanskaar has he got?". And for girls, everything starts with "Act like a lady" and ends with "Girls can't do that".

It is normal tendency to like any colour. It is human to cry. It is normal to stop acting like a soldier everytime and for once just say, 'hey I am tired protecting you, could you protect me too'?

The condition is improving for the female counterpart, with movies like Frozen, where the love of sisters overshone everything else, Brave, where Merida asked her own hand for her marriage as she could take care of herself and Mulan where Mulan proved that a girl could fight like any other soldier if given proper training.

However we are yet to see a movie where a boy likes cooking, tidying and cleaning and still be our same hero we can look upto in times of needs. We are yet to witness stories where a man can hug you tightly and let his tears flow on your shoulder and still be the man whose chest is always there to support your head.

What we portray to the world as who we are is like the texts we write on whatsapp. One minute it shows typing for a long time and then you send just a word or so, because you backspace, delete and filter the words. But who you truly are is like the back pages of your notebook-the doodles, the fun you, the emotional you, without any filters which you can never delete. You can only rip off the page but for every page you tear, the corresponding paired page also starts coming off.

Only when we rise above these stereotypes set by ourselves, can we write our own story, our own fairy tale. There will be nothing more beautiful than the perfect imperfection in your story because it would be written by the master — by you! 🚀

Daddy, walk alongside

Ritika Tomar
IMT-2018

Not yet ready to face the odds of the life
the harshness of the world and terror of the night
with you around, I will walk with pride
I want you Daddy, to walk alongside.

Not big enough to make the right choice
in walks of life, I stumbled twice
without you I feel defeated
I want you Daddy, to walk alongside.

Not leading the life of success is my biggest fear
stories of your courage and strength motivates me a lot
you are the ends of my rainbow and make my life glow
So I want you Daddy, to walk alongside.

Are you that 'Machine Learning enthusiast'?

Gaurav Agarwal IPG-2015

"A baby learns to crawl, walk and then run. We are in the crawling stage when it comes to applying Machine Learning"
-Dave Waters

'Machine Learning', 'Deep Learning', 'Data Science' etc. are some buzz words of the present time, especially here in IIITM. There was a time when our seniors and their seniors started studying and working on these around their BTP time (which happens at the end of 3rd year), but today the scenario has really changed a lot. I see every next person, especially my juniors from all the 3 years wanting to jump in it. Although I am not complaining that this is bad but I really wonder that is it really their desire to learn this or just another sheepwalk has begun? Because I can really say that at least more than 50% of those who tag themselves as 'ML Enthusiast' do not actually know what Machine Learning really is!

ML is not just about training your data on a model, not limited to knowing some terminologies or writing few pieces of codes. There's neither any magic involved nor any set of 'if-else' statements (that some people believe), rather it is pure mathematics that governs each and every thing. Unfortunately, a large number of those so called 'ML Enthusiasts'

focus just on implementation, not even knowing what their code is actually doing behind the curtains. Another funny part of the story is they jump directly to Deep Learning thinking that anything except 'Neural Networks' is not worth learning.

Always remember that Tensorflow, Keras, Scikit-learn or any of their other siblings do not form the foundations of this domain but Linear Algebra, Probability & Statistics do. One needs to realize that ML is not like Web, Android or any other development stuff so don't go in the direction of becoming an ML 'developer' by just importing libraries and using functions but work on becoming a data 'scientist', who first understands the theory, formulations and logic and thereafter begins experimentation. This is what distinguishes the two. It will definitely require more time and patience but if you genuinely want to learn then this is the right way. Being aware that there is much more in this vast field to know, I always call myself a 'beginner' because I am still learning.

For a short reality check I also want to tell that you don't find jobs and internships that easily or with that handsome a pay in this domain at the initial level, unlike your friends in development. Any big company wants only ML experts and many a times with a PhD too (that's why it becomes more crucial to

things in depth). Also, be prepared to face the fact that at present there are very few companies that visit our campus to hire for Data Science, so you might have a hard time looking for off-campus jobs. But once you manage to get one (could be at terms less than expected), there's only a few years of experience that you need to take a big shot. Now, if you honestly think that this is actually the domain in which you want to work, then don't just rush things, take one step at a time. No doubt internships are a good way to learn things but many beginners enquire me about getting an internship and the point is nobody would take you as an intern unless they feel that you are capable enough. So don't be in a hurry, at least learn some basics first and do a couple of 'good' projects (I do not mean that you count the Titanic or Digit Recognition as projects). There are some other great ways through which you can hone your skills, one of my favourites is 'Hackathons'. When I participated in my first hackathon I realized that it had taught me a whole lot of big & small things. Due to the little time available and so much of competition around, the pressure of converting your idea into a presentable product is really high and challenging.

At that moment, you can't just say that you don't know something because your motive is to get it done by any means. Plus even if you're just a Machine Learning guy you must have at least some basic knowledge in the development domain too, for example, to integrate your model in the final application. Only by working on real life projects through hackathons or internships can you learn these things.

For the 1st and 2nd years, I have one piece of advice that don't blindly follow any trend because you have the time to explore new and cool stuff. There are several other interesting fields that also have great future scope but nobody is working on them in our institute yet. Try your hands on IOT, Augmented Reality / Virtual Reality, Cyber Security or Blockchain, if things fall into place then you might be able to create a new trend and I truly believe that this kind of diversity is very healthy and important for any institution like ours. What I have written in this article are out of my own experiences and realizations that I have gathered till now.

I am neither a master of this domain nor do I have a success story to tell. I am just another student who found his interest in it and picked it up accepting both its pros and cons. That's what I really want to convey from this article that even after being aware of all its dimensions, when you truly feel that you want to pursue it, then only continue with it. Don't just get drawn by its popularity because this is a domain which offers all the opportunities to the ones who really know it but none to those who just pretend to. 🚀

ज़िंदगी

ज़िंदगी नाम ज़िंदादिली यार है,
हौसला थोड़ा दिल का बढ़ा लीजिए।
चाहते हो जो हासिल वो हो जाएगा,
थोड़ा मेहनत की चादर बड़ा कीजिए।।

यूं गमगीन हो उलझनो में उलझ,
उलझने देख बस मुस्कुरा दीजिए।
ज़िंदगी नाम ज़िंदादिली यार है,
हौसला थोड़ा दिल का बढ़ा लीजिए।।

जो भी उलझन है हंसकर सुलझ जाएगी,
मन को थोड़ा सा बस हौसला दीजिए।
ज़िंदगी नाम ज़िंदादिली यार है,
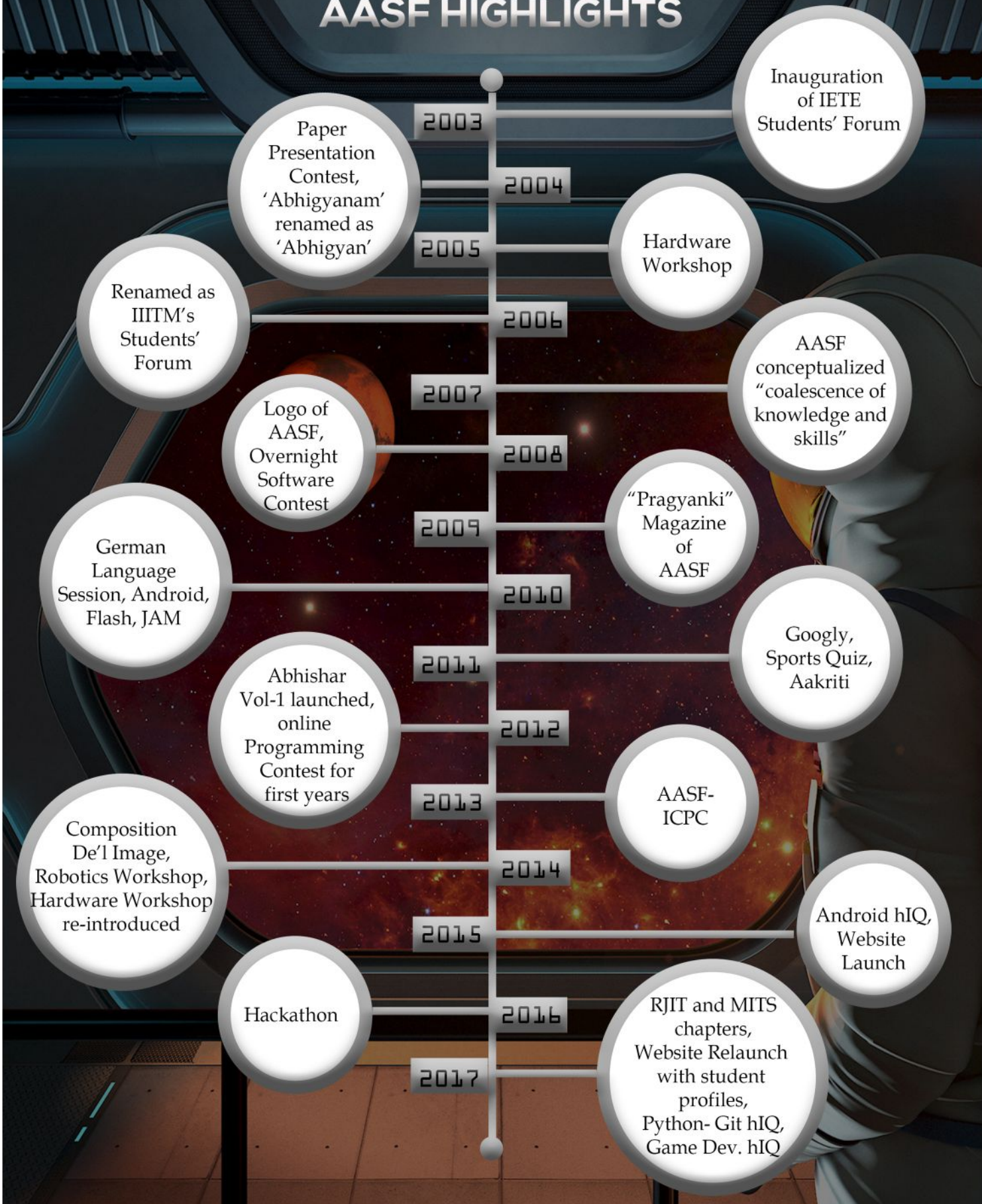हौसला थोड़ा दिल का बढ़ा लीजिए।।

यूँ परेशान होके न मायूस हो,
यार अपनों की थोड़ी दुआ लीजिए।
ज़िंदगी नाम ज़िंदादिली यार है,
हौसला थोड़ा दिल का बढ़ा लीजिए।।

तू अकेले ही मंजिल को पा जाएगा,
बात मेरी ये दिल में बिठा लीजिए।
ज़िंदगी नाम ज़िंदादिली यार है,
हौसला थोड़ा दिल का बढ़ा लीजिए।।

प्रशांत द्विवेदी
IPG-2016

AASF HIGHLIGHTS

2003 — Inauguration of IETE Students' Forum

2004 — Paper Presentation Contest, 'Abhigyanam' renamed as 'Abhigyan'

2005 — Hardware Workshop

2006 — Renamed as IIITM's Students' Forum

2007 — AASF conceptualized "coalescence of knowledge and skills"

2008 — Logo of AASF, Overnight Software Contest

2009 — "Pragyanki" Magazine of AASF

2010 — German Language Session, Android, Flash, JAM

2011 — Googly, Sports Quiz, Aakriti

2012 — Abhishar Vol-1 launched, online Programming Contest for first years

2013 — AASF-ICPC

2014 — Composition De'l Image, Robotics Workshop, Hardware Workshop re-introduced

2015 — Android hIQ, Website Launch

2016 — Hackathon

2017 — RJIT and MITS chapters, Website Relaunch with student profiles, Python- Git hIQ, Game Dev. hIQ

PUZZLE ZONE

I speak without a mouth and hear without ears. I have nobody, but I come alive with wind. What am I?

What English word has three consecutive double letters?

What are the next three letters in this combination? OTTFFSS

Draw one line to make it true: 5+5+5+5=555

What can travel around the world while staying in a corner?

What goes up and up, but never ever comes back down?

Writing my first book: The journey

Jayant Shilanjan Mundhra
IPG-2014

3rd December 2016.

That's the date when my parents' anniversary falls. Also, it's the day when I decided to do something more than just contemplating about becoming an author someday. It was the day when I decided to become a doer.

To be frank, starting to write my debut book wasn't tough at all. It was set to be a memoir and recollection of my father's struggles, his relationship with me and my life with my mother after his untimely departure. But, as I stated above, starting to write the book was easy. That's because I had already spent several hours thinking what my first book would be about. Thus, I had absolute clarity in my head about where I wanted to start the tale, and where I wanted to end it. However, after a mere 5-6 days of typing down all the thoughts brimming at the top of my head, I had hit a cul-de-sac. I ran out of ideas to type out because even if the start and end points were clearly defined in my head, I had never thought much about the narration, I had to take the reader to that intended end of my tale.

So, that was it- A Full Stop.

Just within a week of having started writing my debut book, I gave up. I had succumbed to the idea that I was not ready to write an entire book on a single topic yet. A 2,000-word article was more of my thing. A book,

not so much. So, I took a hiatus. A year long break. But, I was still certain that whenever I was to write my first book, the theme would be the same. It had to be a eulogy written in my father's remembrance which would take his tale full of struggles, love and dreams to a large set of people.

However, as they say, just a spark can be enough to light up a fire. Something similar happened with yours truly as well. At times, people or things that don't mean anything to us end up giving a lot of meaning and direction to our lives. A fellow Quoran, Divyansh Mundra had a similar impact over me when he self-published his debut book, "The Secrets of Himalayan Treasure" in November 2017. Even though he was a nobody to me, him publishing his book moved some part inside of me- the part that had been stopping me from writing my much delayed book. His achievement reminded me what dream of mine I had rendered forgotten. And, with that realization settled in my head, I didn't even waste another minute.

I pressed the reboot button!

It was 27th November 2017, the day when I reopened that forgotten word document on my laptop and read all that I had written almost a year ago. After parsing through it all, I made some realizations.

Firstly, over the year-long course I had read and written a

lot, and that had improved my writing skill greatly. I was not a good writer before, neither am I now. However, I had gotten way better at the craft. Thus, I had to rework everything I had written earlier, else that would not have matched up with rest of the book that I was to write. Secondly, I had now learnt that just sitting in front of the laptop screen, hoping that thoughts would come out on their own as I would type, it just wasn't going to work that way. If I had to write a book that would make me feel proud of myself, I had to do a lot more thinking and planning before taking to typing down things. Thus, I opened a separate word document on my laptop and started typing in it everything that I wanted this book of mine to be about. I wrote down in brief what story about my father and myself I wanted to tell. This exercise surely took about a week to reach a solid form. But in the end, I had a clear-cut outline to follow. I now had a much better idea about what I had to write, when and where.

There were wide-ranging topics that I decided to craft the tale around- my relationship with my father, his struggles, the differences we held, the way I mistreated him towards his last years, how his untimely departure from the world broke me and then built me afresh, and how my bonding with Maa

evolved as a result. My book was going to weave through it all.

I also thought a lot about the purpose of me writing this book. Who I was writing this for, and what I wanted the reader to take away from it. And I concluded that I didn't want it to end up being just another book on the shelf of someone, gathering dust after a single read. I wanted it to become a book which would someday bring a set of parents and their children closer. I wanted it to become a book which would transform relationships that parents and children share with each other.

With all that clearly settled in my head, I started typing one more time. And, this time, I went on a non-stop streak for almost 2 months. I added 200-500 words to the draft each day. The point I had in my head was simple- no matter how less time I might be able to make out of college curriculum each day, I had to write some bit of my book every day. However small those bits be, it didn't matter. But writing some bit every day did. And, my strategy worked. In those two months, I wrote a really good amount. I had formed a solid base to further build my story upon. But, when you are engaged in the same activity for long, you often tend to lose your zeal for it day by day. The excitement and energy often wither away. More and more of you begins to ask for a change, for a break. The same happened to me. And, with the hectic schedule at college cou-

pled with sundry other activities that I was pursuing, writing with a fresh mind each day was getting tougher too. Thus, I succumbed and went on to take another break.

Thankfully, this one lasted just two months. Also, by that time I had written about half of the book. Or maybe about 40 percent. But, this time when I took up with writing my book again, I had a big factor playing in my favour. My college was off for summers, and my internship demanded just about 8 hours of rigorous work each day. Thus, I had begun to find plenty of time at my hands to dedicate to my book.

Ergo, now, I would write more and more every single day. Five hours at the least. And, as I was getting closer to my intended end of the book, I never even realized when those 4-5 hours of writing grew to 8-9 hours of a daily ritual.

I would get to writing immediately after returning from work. I would keep typing chapter after chapter till late in the night. And despite sleeping late, I would wake up early each day and write again for an hour or two before I would have to get ready and leave for work. Even when at work, I would be busy appending more words and paragraphs to the book every time I would get a break. Basically, my book had become the very definition of my days. I was on a mission mode.

Trust me, hitherto then I had never shown this scale of passion and religiosity towards any activity I had ever pursued,

anything in my living of over 23 years. Writing this book had become a drug which I had gotten addicted to. It had evolved into an effortless, smooth and soulful activity without which my days hardly had any meaning. I would always be thinking about things I could add to the book, or things I could remove, or aspects I could re-write or improve.

Even when talking to my best friends namely Shreya, Yukti and Shivani, I would talk only about the following two major things. Number one, how much I missed them. Number two, how much I had progressed with my book. Every aspect and every hour of my days had begun to witness some bits of me being engaged into completing my book. And eventually, it happened.

Co-incidentally, it was Father's Day (17 June 2018) when I had finally completed writing the first draft of the book that I had been writing in remembrance of my father.

It was exact 11:37 pm when I had hit the "Save" button on MS Word on my laptop. I stood up from the chair I was seated on since 7 P.M. I walked around a bit, smiling, with the image of my beloved father reflecting in my head. And, with those positive vibes gushing through my veins and elevating me to a state of utopic peace and joy, I at last slept on the cold floor of our living room, experiencing a feeling of accomplishment that I had never been exposed to before.

That day, I felt like I had achieved something significant, as a son. A son, whose proud father could cry happy tears which would rain on me from the heavens above. I know it sounds metaphorical. But trust me, that was the feeling. The feeling which said, I had made something good out of myself.

It was surreal.

I then apprised Maa about it the next morning. Over the days that followed, I then recited every word of the book to her. Every word that I had written over a span of more than a year and a half, investing an unparalleled scale of time, energy, tears and emotions. During that course, we both cried at times and laughed at others. There were instances when we fought a little too. She wanted some portions gone while I was not ready to make any changes at all. But, in the end, she was really happy and proud of her son. There was so much about me that she didn't know before and got to learn only during those recitations. Thus, reading my book to her was an amazing journey of its own which I am going to remember and cherish throughout my life.

Maa never says it to my face that she is proud of me because she knows her son is a nincompoop who would immediately bloat up in joy and begin to think too much of himself. And, she is very right to think that way. She knows me well. But, when I had been reading my book to her, she didn't have to say that she was proud. The expression and joys on her glistening face said it all. Thus, I bloated up :P

That said, once I was done reading the book to Maa and making some minor changes, I spent another month and a half, editing the book. Thanks to Shivani, Shreya, Yukti & Sahana, my amazing chums who became my book's first readers and primary editors. They gave me the first review and feedback on my work which helped me further transform the book into the superlative form it is in today.

Trust me when I say it, compared to what my book's first draft was like on that Father's Day, the post edited final draft version of the same was a humongous achievement. I had removed over 15,000 words of content that my book could do well without. And, also, I had added another 10,000 words of fresh content that aforementioned first readers felt the book needed to support and further strengthen the storyline.

And, that is how, slowly, silently, crawling and running, there came the moment when I was ready. Ready to share my father and my tale with the world out there. Now, it's just a matter of a little over a few days from this writing as on 21st October 2018 my debut book will be out there published on the Kindle Store on Amazon, which would later be followed by paperbacks a few months down the line.

That was the journey of my first book that is titled, "Redemption of a Son", or as a Telugu movie's Hindi dubbed title would go, "Ek Bete Ka Pashchatyaap".

Signing off,
Shilanjan- The son of Shila and Niranjan.
Or, as people at ABV-IIITM know me, Jayant Mundhra :) 🚀

Did you know?

- 'In Search of Lost Time' by Marcel Proust is the longest novel which exists. This masterpiece made its mark in Guinness Book of World Records and could quite easily double up as a mightily effective doorstop with 13 volumes clocking up nearly 1.3 million words.
- The most expensive printed book in the world is the 1640 Bay Psalm book from America. It sold in November 2013 for USD 14.2 million.

Pradyumn Pottapatri
BCS-2017

Level zero to dream drop distance

Nobody has the faintest idea what follows death. It is sinuous. Let's see. What time was it? Ah, yes. It was around 03:00. Satan's hour. Unsure of where I slipped to, all I could do was to nurture my confusion and self-hatred while listening to Heathens. Waiting for new town Gwalior for around 20 hours, just me and my dad with my luggage packed the day before in a very hustle-bustle manner, the outcome one would least want is the train being delayed for another two hours.

Awaiting me was the symmetric admin block of the institute. Or so I thought. Glancing towards the right, I found it asymmetrical. "Symmetry is the key. Everything in this world should be aesthetically pleasing." That's the principle I lived upon. Demise was what all asymmetric things I could see ahead of myself. Bell rings for the academic registration and everyone follows to the seminar hall. This random guy approaching me tells his name and in return asks mine. I'm spiraling towards my doom as we speak, losing my cool was all I could remember, for a guy with his confidence being in absolute gutter. My dad came to my rescue realizing that me being an introvert was not answering his question. Ashamed of my cowardice, I caught my water bottle before it slipped through my shivering fingers. Every person I con-

fronted on the registration day had this 'Serene Grace' ability on a comparison scale with me, flinching me with words. Odds in my favor are none. +2 school life packed a lot a of fear in me, I derived that in a minute or less. Walking a lot on the registration day was a vigorous exercise compared to sitting as a Slowpoke in my intermediate. Registration executed, it was finally the time to go to my new home i.e. my hostel. My instincts never accepted the people who were welcoming their last- minute contemporary guests with joy. The voice resonated with my soul, I managed enough to stammer. All I could do to reinforce my determination was to say hello and ask the other person's name. I closed my room and an awkward silence followed. I felt slightly screwed up. But that was only the start of my oddly big friendly empire.

Few days followed, classes attended with a slight hatred and slight excitement. "What's with the club inductions?", I always thought. Being alone multiplies its supremacy over being with a group of people doing random chores and organizing meets for another clump of sapiens. Not being inducted into the club for any reason is acceptable. This nasty rumor that most people who applied are inducted, bugged me. Although, I never tail-glowed or belly drummed

to try and get into the club. Me being neutral hits should do the play. Vindictive as ever, I might have attended most of these inductions and club events. There was another club which used to conduct more of technical events less being oratory ones. Doom desiring, this other club I'm talking about, piloted an oratory event where people have to tap their chairs before taking turns to speak. Among people giving their conclusions at the end of each session, there was this Potterhead. The hall was in outright silence as she ingeniously gave her denouement. It took a few moments to process what I had just witnessed. Everyone's lower jaw was accumulating dust on the floor. I had a knowing look on my face, a mix of appreciation and disappointment. It was as if you were being led into a circus trick. But soon, I came to realize that she was an introvert, a notch above me. Although introverts don't allow themselves to mold into the surroundings, I felt its high time to go all-out pummelling.

So, I drew my katana and started to carve out my empire and sliced every fear in one flick of my wrist. That being said, there are incidents where people have hated me. Interacting with people had to be my prime objective. That I did, with not much hesitation. Even that had

its own limitations. With not knowing to care about words, I might have hurt people's emotions. Apologies followed and it has been a year trying to survive as a bohemian in the campus. But just being yourself could bring out friends who can act as your family, then why not give out 100% and just make yourself a worthy friend? I realized that by being in a group of people who I declined as my first friends. Relations enhanced and I finally got to know many other people. Within a year I started to spin things in a way, I've had never tried before. The gutter introvert started to become an outgoing guy having his own limitations, but in terms of getting introduced to new people. There's still room for improvement, some serious ones indeed. I really want Jirachi to exist so that it'd bring at least one of my wishes true. This time though, I'll bring a change and go beyond the boundaries.

Amor gignit amorem! 🚀

You opened your eyes

Abhishek Pratap Singh
IMG-2017

You opened your eyes and smiled awhile,
You'd friends to meet and cartoon meetings to keep.
You smiled meek over the superpowers you seeked,
You counted the days,
You were gonna be seven that week.
You opened your eyes with hangover awhile,
You'd gangs to meet and a social image to keep.
You bullied meek over the biceps you seeked,
The world should know,
You were gonna be seventeen that week.
You opened your eyes skipping breakfast awhile,
You'd colleagues to meet and corporate meetings to keep.
You smiled meek over the promotion you seeked,
It slipped your mind,
You were gonna be twenty-seven that week.
You opened your eyes it was night awhile,
You'd expectations to meet and presents to keep.
You smiled meek over the gifts he seeked,
How could you forget?
Your son was gonna be seven that week.
You opened your eyes and life's in turmoil,
You'd bills to meet and health to keep.
You sighed meek over the peace you seeked,
You checked your balance,
Your son was gonna be seventeen that week.
You opened your eyes and sighed awhile,
Expectations everyone's but yours were met,
You couldn't find the drawing you'd safely kept.
You cried meek over the superpowers you'd once seeked,
You didn't really care,
You were gonna be fifty-seven that week.

STARTUP SUCCESS

2013 — Mech Mocha

Founders - 1. Arpita Kapoor 2. Mohit Rangaraju
Field - Game Development
Product - High Quality mobile games across casual and mid core categories for millions of Indians.
Top games - Chhota Bheem Himalayan Game, JetPack Joyride Indian Edition. Launched "Puppet Punch" - an arcade fighter that reflects the history of puppetry. The game got featured by Apple and clocked 400,000 downloads in 3 weeks of launch.

2016 — 4 MirrorTech Innovatives Pvt. Ltd.

Founders - 1. Ankur Jaiswal: CEO, Co-Founder
            2. Pushkar Bhagwat: CTO, Co-Founder
Field - IoT (Internet of Things)
Product - Aura FMS with 25+ sensors ranging from air quality check to connected air fresheners, purifiers.
Achievements - Winner of the Eximius Entrepreneurship Summit organized by NARCEL, IIM Bangalore.
Customers: Bhopal Airport, Indore Airport, ABV-IIITM etc.

2017 — Shaastra Automation LLP

Founders - 1. Dr. Pankaj Srivastava 2. Prajval Gupta
            3. Rohit Singhal
Field - Automation
Product - Auto dimmer devices which reduce the intensity of light according to the surroundings.
Achievements - The product got its patent. It won the Startup Battle held at IIT BHU. The product stood first in the B-plan competition organised by IIIT Allahabad Incubation Center.

2017 — Grenovators Motor Work Pvt. Ltd.

Founders - 1. Suyash Singh 2. Purnendu Sinha
            3. Sandeep Kumar Das
Field - Automobile industry
Product - Three-wheeler electric vehicles; electric retrofitment kit for conventional vehicles and Electric Roads systems for three wheelers.
Achievements - Youngest start-up award by ELECRAMA; three collaborations with two different countries- UK and Sweden.

Hakuna matata

Shubham Bhattacharya IPG-2016

The title signifies "no stresses". How could a Swahili quote from a toon motion picture change somebody's life? Indeed, "hakuna matata" is a lifestyle, it implies offering significance to just those things which matter, and understanding that, what truly matters finally figures out how to stay. In the socially online existences of everybody, individuals whine of the absence of simple lives, absence of focus, are subjected to stress and constantly tend to discover relations from skeptical posts about existence. Individuals overlook what's really imperative. They tend to think over what others would think. Imagine a scenario in which something turns out badly for sure on the off chance that he/she bombs. However rather they ought to ask themselves how can it influence their future years later.

Everybody's parents, work, wellbeing, "genuine" companions, core values etc. are the most important things throughout their life and when somebody manages to find something which won't influence any of these 10 years later, he/she ought to understand that it isn't that essential. Time and again a minor anonymous confession could take away your sleep, yet understanding that it doesn't influence your life at all and can't scratch any of the vital things, later on, guarantees you that it isn't justified regardless of the sleep you lost reasoning about it.

What others think about your humiliating minute in front of an audience, isn't critical 10 years later. With what name others bother you currently isn't relevant 10 years later. However, the cheerful recollections you make presently will be recalled later, the things you learn, the experiences you gain, will be treasured later, how you treat your folks and yourself presently will be essential later. That is what Hakuna Matata is all about! Numbness is euphoria and ignorance is bliss. Just when you realize what genuinely not to overlook, keeping in mind that before accomplishing something hazardous you have to ask yourself "what could go wrong?" you'll see that everything conceivable of turning out badly won't matter 10 years later! Furthermore, this should motivate you enough to take a leap of faith Play that game, do that move, a limb… before faltering, THINK! Imagine a scenario of losing the match, missing a dance step or she saying "No". If you look closely nothing happens. Dread of losing individuals leaves us. And If by any chance they genuinely cared for you, they would dependably remain. Each fear is essentially harmless to everything that matters in the future. So just by saying hakuna matata and believing it, you can reduce most of the fears you have in life. It sorts out what's important, tells you which problems to pay heed to, shows you how simple truly life is and which comment to pay attention to. Your so-called sad, eventless, complicated life would get some ray of hope. Even the confusion about the reviews I would get writing this article was sorted as hakuna matata, "Even if they are bad, so what? 10 years later stays the same. You will be happier, have true friends, proud parents, good health and a safe future. It'll make you live each day like it's your last, i.e. by being the best version of yourself. Hakuna Matata, it means no worries for the rest of your days. Its a problem free philosophy!! 🚀

Hakuna Matata, what a wonderful phrase.
Hakuna Matata, ain't no passing craze.
It means no worries for the rest of your days.
It's our problem-free philosophy.
Hakuna Matata.

- (Courtesy) The Lion King

Anyone could become a millionaire by 30

Shooting big has always been my cup of tea. And that is why, in this article, by reconciling my habits, I am going to talk about how to be a millionaire by the age of 30.

Becoming rich and earning millions by 30 has always been a taboo topic for the poor as well as for the middle class. The society is so negative about thinking big that people don't even dare to talk about it. If some brave people do that, they are targeted adversely for their independent and big thinking. Society doesn't like people who think different from the majority.

It should not be taboo since it is possible and just through a positive thought, attitude and money management, it can be achieved. With an average IQ (Intelligent Quotient), EQ (Emotional Quotient) and SQ (Spiritual Quotient), people have achieved their goal of becoming a millionaire by 30, some of them being Ashely Qualls, Juliath Brindak and Sean Berlin.

Why millionaire?

Most of the people around us are having one common problem of not having enough money. This happens with the majority of the people as I had talked in the last article of ABHISHAR V7.0. The reason behind this is that people are not aware of how money works, underestimating the power of compounding or not knowing about these things.

Money is a tangible asset which provides power. The basic function of it is to make you survive and most importantly, the world revolves arround money.

Here are 10 steps that can guarantee to make you a millionaire by 30:

Part of what you earn is kept for yourself

You give money to everyone like when you go to McDonald's, you pay for a burger. You buy cloth, car, cell phone, etc. and you pay for all these activities to the whole world. In all these activities and distraction, we forget to pay ourself.

For becoming rich, keep at least 10% of your income with yourself and make sure that your saving works as an asset and provides future cash flow as a revenue.

Give money to a professional manager

"Managing money is an art and science and unfortunately, everyone is not an artist or a scientist"

Hard earned money should always be given for managing to those who are experts in the money management field. Only an expert can increase the value of money by beating inflation. Otherwise, we can have a bad experience of erosion in our assets.

Don't eat the children of your saving

Never touch your saving to enjoy compounded interest. Compounded interest is called

eighth wonder of the world which created many billionaires as well as millionaires in the past like, Warren Buffet.

Be self-employed

By being self-employed, you have the power to enhance your own salary but when you work for someone else then you provide the right to control you and hence, your future. In that condition, however hard you work, you will not be paid according to your capacity. Millionaires always work for themselves, not for anyone else.

Take responsibility

Millionaires always take responsibility. They don't blame anyone else for their failure like 'Government policy is not good', 'we have enemies', etc. Millionaires always focus on what they have and take the best action to tackle the existing problem, without bothering much about the outcome. They believe in the "law of Karma".

Sustain through pain

If you are going through pain, it means that you are learning something new. Pain assures that you are learning extra, more than others and learning in pain provides you an edge. Therefore, success depends on how you manage stress and pain and how you perform in an adverse situation.

Never hesitate to travel extra miles because in those extra miles you will not get traffic. You will be fast and will ac-

complish your goal before your competitor.

Be honest

Always be honest. In a business set up, people always want a person who can be trusted. No one wants a liar and a cheater to become a business partner.

Your honesty opens up a lot of opportunities in the business as well as in the normal environment. Always remember one thing, your success depends on your surroundings and other people's decisions, since whatever it is that you want, someone has the power to take a decision regarding that. So your good image or image of being a trustable person makes the work of the decision maker easy since our human mind is designed in such a way that it avoids complexity and accepts simplicity and the result of this is that the decision goes in favor of the trustable person.

Get a millionaire mentor

Most of us were brought up in middle class households. We hold ourselves within the limits and ideas of that group. Therefore you will have to study millionaires and duplicate what they did so that it helps to change your mindset and attitude from that of poor and middle-class people.

The best way to get a millionaire mentor is to read books from your favorite millionaires, the ones who fascinate you. Most rich people are extremely generous with their knowledge and their resources.

Don't show off – show up

Millionaires never buy liabilities to show off. They only buy a luxury like car or watch unless and until that mean to them. They buy and believe in assets which can generate revenu work ethic, not the trin-

revenue for future. Be known for your work ethic, not the trinkets that you buy.

Avoid debt, that does not generate revenue

Never borrow money on interest that won't generate money in future. Only borrow money since that can generate future revenue. Rich people use borrowed money to leverage investments and grow cash flow. Poor people use borrowed money to buy things that make rich people richer.

In the end, always remember these rules and apply to your life rigorously

1. Pay yourself first at least 10% of your income
2. Seek advice from an expert for money management, not from friends and relatives
3. Make sure that your money works for you. 🚀

Did you know?

1. The average millionaire goes bankrupt at least 3.5 times.
2. Only 20% of millionaires are retirees. Around 80% still go to work.
3. A 2010 study argues that millionaires (those in the top 1% of earners) pay approximately 40% of all taxes in the United States.
4. Contrary to common belief, many millionaires do not live in mansions or in highly prestigious neighborhoods.
5. On average, millionaires are 61 years old with $3.05 million in assets.
6. Only 20% of millionaires have inherited their wealth. 80% have made it on their own and are first generation millionaires. And the fortune they have will disappear by the second or third generation.
7. The cars millionaires love are Ford, Cadillac, and Lincoln. Most millionaires avoid expensive cars because they give little returns and depreciate in value quickly.

Rishabh Jain
IPG-2015

Why you will fail to be a "GREAT" developer?

It's pretty easy to be just a "good" developer. But being "great" is not a piece of cake. So, this one is a 4 am contemplation, hope it's worth your time to read it. So, here I begin. As a student of ABV-IIITM, you would definitely have heard either one of these, "there is a lot of scope in development, read Geeks for Geeks at the end for placements" or "Competitive coding is everything, development is not worth it".

I disagree with both of them. Competitive coding makes your thinking functional, modular and algorithmic. No doubt, you become intelligent. But it teaches you nothing about the problem-solving in the real world. On the other hand, just learning the syntax of every new technology and calling certain APIs, doesn't make you a great developer.

For new developers the culture is intimidating. With all these buzzwords- AI, BlockChain, Cloud Computing, Hacking, Distributed Systems and rapid advances in each of them, one simply doesn't have the time to know everything. The software industry is constantly evolving every second, the biggest question is how to balance all this. You have to digest the fact that you cannot be good at everything simultaneously. As things come, you have to learn them. There is no point in binge watching the videos of New Boston or to take up a Coursera or Udacity course, unless you develop a project.

Musicians practice the same chords for years, just to get expertise over a single song. And yet, you believe you can learn web development in a couple of weeks. There is a huge difference between making a website that runs on your own system and building a real scalable project.

Real projects are the ones which have never been done before. No matter how small or big they are. You have to keep your eyes open and figure out some of your own ideas, jot them down and "duck-duck-go" it till you find the way of implementing them. If there is something no one is building and you think it can be done, DO IT. A perfect solution does not exist, you just have to pursue perfection and not achieve it. The more you walk through the journey, the better you can observe the goal and the smaller obstacles around it.

As a newbie, dig into the FOSS culture. Remember LINUX is being created by thousands of developers who decide to code in their free time and not to watch another episode of "13 Reasons Why". You have to be passionate towards the process of solving a problem in general. Make mistakes every day. Your first code, like the first draft of a novel, simply sucks. Make peace with that.

Another important thing is that you should be able to break your own code. Think of the various scenarios where your code might get into trouble. How well-versed hackers will see it, how a non-technical smart person will perceive it, how the uncle who is barely technically-educated will observe it. For scalability, run your code on various machines, what will happen if the internet goes down, what exceptions to raise, will it try to respond later when the internet comes up again, what security options do you have in your mind etc.

As a developer, you must know at the very root, how the system works. How your NSFW bytes do not stream to your mother's phone though you are connected through the same router? How system calls work? What really happens when you call "printf" in C language?

Another common thing we all do is to "Stack Overflow" an error, copy paste the solution and it works. Wooh. And we all forget about it. It doesn't increase your skills. Try to modify pieces of code in the answer and see how differently things go. Good Programmers copy, Great Programmers Steal.

Seek advice from people who have expertise in the field. Compare their approach with yours. Is their code more scalable? Does it handle more

errors? Does it have a good writing style? Learn from them, don't follow them blindly. Don't write crappy code ever, no matter what the deadline is. It will be unmaintainable, full of bugs and will backstab badly at the end. If this happens in production, it can result in a potential loss of millions of dollars to your company.

The 3 P's to development are perseverance, practice and proactiveness. The last word tells us how to see the problem in a bigger picture, into a graph that is detailed enough to handle every possible scenario. This vision comes with experience. Here are some tips from my side:

1. Competitive coding is important. You don't need to be the top one to be a great developer, but it makes your mind sharp. It helps in modularity and the general knack of optimizing the problem and using proper data structures to store data.

2. Hackathon is a great way to build something fast. They are not the best solution, but they create a minimum viable product. Attend a lot of them, break the barriers and create something cool every time.

3. Many programmers will agree that most of their time is spent in debugging and testing. The better the code is written, lesser time is spent in such works. That's why I said and I repeat, NEVER WRITE CRAPPY CODE.

4. You are not going to work alone on a project, your code must be readable to other teammates as well. Write a code that you expect from others.

5. Be a little entrepreneurial in your thoughts, see what features you can add to make a user-centered product.

6. Expertise is overrated. Every developer who has created a solution was unskilled for that problem. You learn as you grow, keep it short and simple.

7. The biggest happiness is to write code that makes a web-site scaled to a million users load 5ms faster.

8. Paper-pen is highly underrated. Always draw the solution first before coding. People who know many stacks and do not have the problem-solving skills are divas. DON'T BE A DIVA, BE A GENTLEMAN. Write the solution first, then code.

9. Slamming the keyboard is not the key, it hardly makes a difference. The real work is done in the head. Don't be a glorified typist.

10. Development is an art, not a science. If it had been a science, every code would have been similar. Add your own bit of uniqueness and style into the code.

Remember, the best time to plant a tree was a few years ago. The second best time is now. And yet, like me, you know everything but you will not persevere to be a "great" developer. Because it's pretty easy to be just a "good" one. 🧑‍🚀

सरसराहट

दीप शाह
BCS-2018

ये मायावी संसार ने जब श्री कृष्ण को खोया
तब परम मित्र अर्जुन भी रोया
इस कहानी का प्रारंभ तो तब से हुआ
जब एकलव्य ने गुरूदक्षिणा में अंगूठा कुरबान कर दिया।
गुरू की सेवा करना शिष्य का फर्ज है
विद्या के पथ पर आंधी सहज है
अगर ना कर पाए गुरू का आदर
तो तुम्हारी जीवन नैया तूफानी सागर का शिकार है।
शिष्य किरण तो गुरू किरणपुंज है
हमारे पुराणों में ''गुरू देवो भव:'' की गुंज है
अगर ना हो डूबता हुआ सूरज गगन में
तो खिलता हुआ चांद भी सितारा है।
ना है मजहब के बेडिया ना धन की उम्मीद है
बस कुछ कर जाने की ज़िद है

सीखने के लिए सुबह क्या शाम क्या
करोड़ों महान दिलों का यहीं तो पैगाम है।
दिलों में जज्बा हिमालय की चोटी पर है
भीतर आग मात्र विद्या की है
विद्यार्थी मान लो जलता दिया
तो जलता दिया आंधी का डर नहीं है।
आज शिक्षक दिन के पावन अवसर है
आज तो हरेक हिन्दुस्तानी की एक ही पुकार है
ना मिला गुरू का आशिष तो
पूरी ज़िंदगी सिर्फ सूखे पत्तों की सरसराहट
है......
सरसराहट है. . .
सरसराहट है।

Shubhanker Srivastava
IPG-2016

Failure:
A different perception

We all have days when everything seems as difficult as a bird's first flight. Filled with expectations we all march upon a road with the hope that it will lead us to success one day. But sometimes what matters more is not the destination but the journey. And the journey to success is seldom an easy one. We all come across difficult situations, different circumstances, some ups and downs. And yes, at some point in life we all face failure. We all fail. maybe not once, not twice, but in fact many times.

"Expectations overflow,
I want to say so much,
And yet, I choose
to stay numb.
I shot for the stars,
But my dreams gave me scars.
My wounds are not on my skin,
But somewhere deep within.
I want to shout and scream,
But silence is all
that I could afford."

Giving up looks like the easiest way available and trying and giving it another shot looks like the most difficult task. So, what to do next? Is that the end? Mr. /Ms. Future Superstar, is this the end of your journey? No. At this stage of our journey, we all look around for some motivation. And like they say, every coin has two sides. What we have always been looking at is the dark side of failure. But today let's change our perception a little bit and look at the brighter side of the darker things - use failure to motivate ourselves.

I'm sure you failed the first time you tried to ride a bike you had a bad fall. You may have become scared of the pain and embarrassment, never wanted to touch another bicycle again. But then you tried again and again and fell again. Battered and bruised you kept trying. How you think makes all the difference. So why is failure the best thing? Why you should fail is simple. Fail because it is beneficial to your future.

Steve Jobs was fired from the company he founded – Apple. He also failed with NeXT computer company and the Lisa computer. When Jobs returned to Apple, he led the business to become the most profitable company in the US. No one wanted to hire Walt Disney as an artist. In fact, he couldn't get hired elsewhere either. So, his brother got him a temporary job. Walt's first animation studio went bankrupt. He went on to co-found The Walt Disney Company, which had $50.1 billion in 2017 revenue. Infact, the Leaning Tower of Pisa, wasn't supposed to be leaning, but if it were straight it probably wouldn't be such a popular tourist attraction.

These are some success stories of people who have faced failure for a greater portion of their life. Had they given up, would they be who they are right now? You know the answer to that.

Each time we lose, we fail, it hurts us a lot. But our failure today should motivate us for tomorrow's success. Just thinking about all the "what ifs" of what would happen if we fail should give enough motivation to do well in the next challenge that life has set. Learning from our own failures makes us mentally stronger and better prepared for what life holds for us in the future. Fail, and become so possessed with not failing again that you use it as fuel to drive you forward every single day. Take yourself to another level of determination. Learn from your failures.

And as the lyrics of a popular song says, "Everything that kills me makes me feel alive. Everything that drowns me makes me wanna fly." And then eventually each failure gives you the boost, the kick needed to prove it to no one but to yourself that yes you can do it. And then, when nothing works, I remember this dialogue from a bollywood hit, "Humari filmo ki tarah humari zindagi me bhi end me sab theek ho hi jata hai; Happy endings! Aur agar theek na ho to, wo end nahi hai mere dosto; picture abhi baaki hai mere dost!" So, pull up your socks, fasten your seat belts, there is an amazing journey waiting ahead for you. Fly, run, walk or crawl but don't stop.

Your every small step takes you closer to your destination. Just think of all the good that has happened to you and fight against all the odds with double energy and motivation. Wish you a very successful and blissful journey ahead. 🚀

सफलता

सफलता की खोज में,
ख्याति की ओज में,
राह राह भटकता हूँ,
पर यह नहीं समझता हूँ
सफलता विजय है, विराम नहीं,
और इसको अर्जित करना
इतना भी आसान नहीं ।

सुयष शुक्ला
AASF-RJIT

ढूँढते हैं लोग इसे शरीर की चाल में
सुंदर काया में, मनमोहक बाल में,
कपड़ों की बनावट में, साज सजावट में,
धन वैभव के रौब में, चापलूसों की फ़ौज में,
शर्ट की सिलाई में, पैन्ट की ऊँचाई में,
अपनी झूठी शान में, दूजों के अपमान में,
शरीर के आकार में, और उसके चतुर्दिक प्रचार में,
दिन ब दिन
पहर दर पहर,
सुबह शाम,
यूँ इसी कदर,
सबको चोट पहुँचाते हैं,
और खुद को सफल बतलाते हैं।

पर सफलता अगोचर है, अविरल नहीं,
इसको प्राप्त करना इतना भी सरल नहीं।

सफलता व्याकुलता का परिणाम है,
परिश्रम का दूजा नाम है,
मानस के भीतर की चेतना है,
जिसे एक समृद्ध संसार देखना है।

निस्वार्थ कार्य जो करता है,
और अपने गंतव्य पथ से,
जो कभी भी नहीं विचरता है।

वो सौम्य आचरण वाला मन,
सूरत में शायद हो कुछ कम,
कपड़ों का उसमें न हो ढंग,
और शरीर नहीं रहता हो संग।

पर कामयाबी की चोटी पर,
वो ही अकेला चढ़ता है,
जिस पर ऐसे अपवादों का क्षणिक फर्क न पड़ता है।

समाज में सम्मान के लिए,
अपने कर्मों पर अभिमान के लिए,
उन व्यर्थ विकर्षित धाराओं से
जो सतह चीरकर निकलता है।
वो ही सफलता चखता है
वो ही सफलता चखता है।

MEMORIES

We meet a lot of people in our lives, but only some manage to remain in our memories forever. Late Abhinav Saxena and Late Tushar Sharma were among the most diligent members of AASF. More than their utmost dedication and hard-working attitude, it was their friendly demeanor that made them special. It has been eight years since their unfortunate demise but they are still alive in our memories.

Lifescape
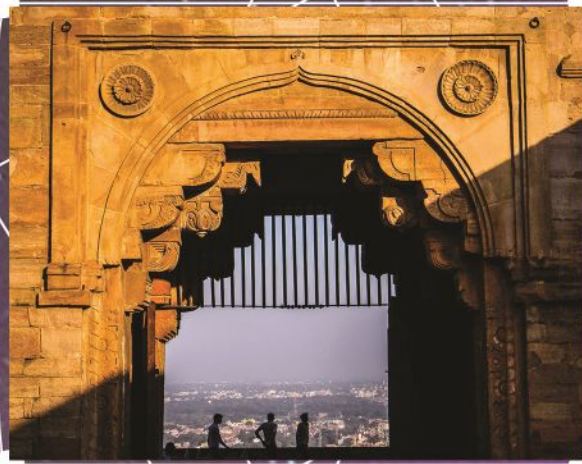
Abhijeet Chauhan
There's always a door to free your soul.
Only you are the one who can open it.

Sachin Acharya
The Upper Shivalaya Temple
Badami, Karnataka.

Pradyumn Pottapatri
People want to fly like the birds. As they
have the fear of getting captured.

Sakshi Chahal
Look at the stars, look how they shine
for you.

Anshita Sharma
Her moves are limitless, her powers are intimidating, her army is strong. Oh well, she is a Queen. Check-n-mate!
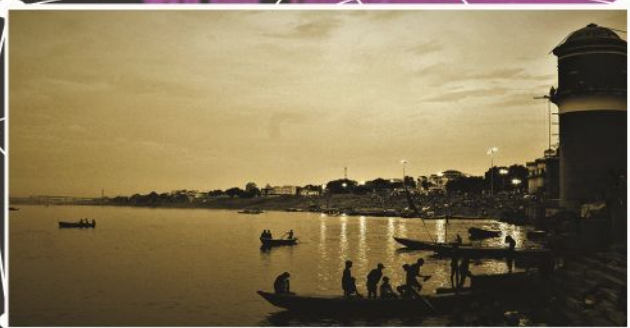
Piyush Chetwani
It's not what you look at that matters, it's what you see.

Jayant Shilanjan Mundhra
Contemplating what his future life would be like with his supposed beloved one, nothing better came out of him than the thought of the couple growing from 2 to 3 <3.

Prajwal Singh
Midst salvation.

Pooja Bhookya
Love is like a wind, you can't see it but you can feel it.

MANGALYAAN

On **5th November 2013**, Mangalyaan was launched by ISRO from Satish Dhawan Space Centre (Sriharikota Range SHAR), using a Polar Satellite Launch Vehicle (PSLV) rocket.

It was successfully inserted in Mars Orbit on **24th September 2014**. It made global history as India became the **first** country to successfully reach the Martian orbit in its debut attempt.
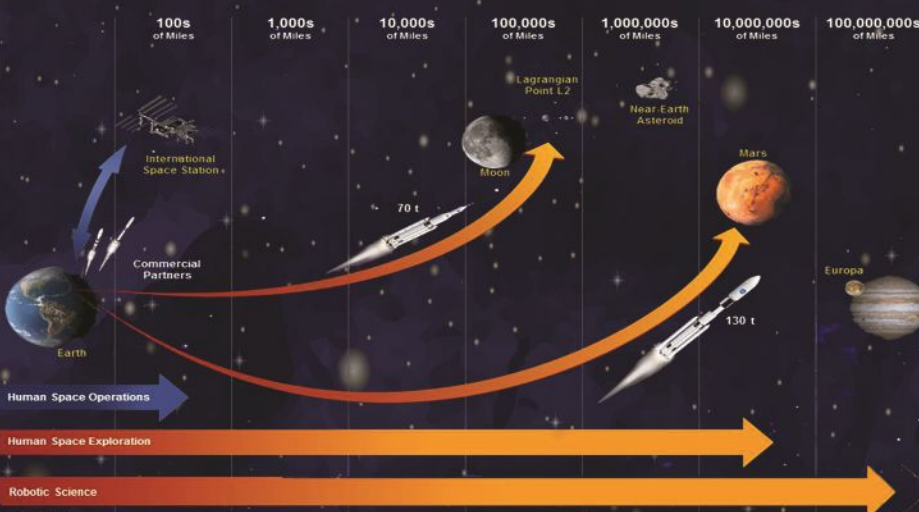
With a cost of **$74 million**, Mangalyaan is the least expensive Mars Mission to date. The per km expense of the mangalyaan is even lesser than that of an auto rickshaw ride.

INTO THE COSMOS

THE FUTURE OF EXPLORATION

100s of Miles
1,000s of Miles
10,000s of Miles
100,000s of Miles
1,000,000s of Miles
10,000,000s of Miles
100,000,000s of Miles

International Space Station
Commercial Partners
Earth
Lagrangian Point L2
Near-Earth Asteroid
Moon
Mars
Europa

70 t
130 t

Human Space Operations

Human Space Exploration

Robotic Science

www.nasa.gov

WHAT HAPPENS TO BODY IN OUTER SPACE

1 ASPHYXIATION
In space, it would take only 15 seconds to use entire oxygen present in your blood.

15 SECONDS OF OXYGEN

2 BOWEL CONTROL
Immediate loss of body control and bowels evacuates immediately.

EVACUATED BOWELS

3 BOILING BLOOD
Boiling point drops under low pressure thus all the liquids inside the body starts boiling.

NO PRESSURE IN SPACE

4 HEART ATTACK
Boiling blood forms bubbles. Any bubble, if reaches the heart causes heart attack.

5 BLOATING
The boiling blood causes the body to swell up and become really puffy.

SKIN SWELL

6 SUNBURN
If you end up facing the sun then you will experience a temperature of 250 degrees farenheit.

250° F

7 CELL MUTATION
You'll be bombarded with radiations from all around like UV rays, gamma rays, etc.

RADIATION GAMMA RAYS UV LIGHTS X-RAYS

8 FREEZING
If you are not facing the sun then you will experience a temperature of -440° F.

-440° F

DID YOU KNOW?
The Gran Telescopio Canarias is by far the largest telescope on earth and measures 34 feet (or 409 inches) across!

Sharad Mishra IPG-2015

A story no one knows

The wait was increasing. They were trying every possible thing. Since regular visits to doctors clarified that there were no medical issues related to both of them, it became more complex to figure out what they should do now. They moved to temples, did prayers, made vows to gods and did whatever their trustworthy relatives said. All seemed going in vain when finally their doctors announced that someone was about to arrive. And eventually he happened to them. They named him Ashish as they believed that it was an "Ashish" (blessing) from God to them.

No need to tell how content and grateful everyone was in the family. He was overloaded to affection, attention, pampering and pure love by his parents. They say that icing on the cake was his smile that made it just unbearable for anyone to keep themselves away from him. But his parents managed to keep unmarred that very fine line between pampering and spoiling. Being highly disciplined and honest themselves, it became a little easy for them to impart their prudent values in Ashish as he was learning and following whatever his parents were doing.

Here one important relation to mention is the unique bond between his Nana and him. Since Ashish was very shy. He never used to talk a lot to his Nana but it was quite apparent that they both used to be happy to see each other. Ashish had a great respect for his Nana as his Nana was a highly spiritually grown personality and his wisdom always fascinated and captivated Ashish. It didn't matter which kind of discussion was going on, if Ashish's Nana was there, then he would automatically become the epicenter of discussion because everyone respected him for his knowledge.

Now, let's dig a little deeper into Ashish's life. Ashish was kind at his heart. He loved helping others. Being an introvert, he used to hesitate to approach someone initially. But his mother knew the fact that at the end of the day, he was never saying anything bad for anyone. Most of the times, he skipped the chance of helping others but everyone in the family forgave him as everyone thought that his primary task is to perform well in his academics and he was excellent there. So no complaints for some 'minor' mistakes! And in addition to that, Ashish's increasing interest in Vedic explorations kind of gave assurity to everyone that he will never be missing major opportunities to contribute to this beautiful universe when time would demand.

Ashish was in 12th standard when one day, after returning from a very hectic schedule of classes, his mother told him that his Nana had been diagnosed with stomach cancer in advanced stage. Mummy was crying, siblings were silent and Ashish was shocked. He just sat near his mother and started thinking about Nana and his ever glowing aura. He tried to imagine the anguished face of his nana but he couldn't. Being a patient of diabetes, his problems had already been severe. Later, he came to know that Nana wanted to be with his daughter in this wretched state, so he was brought to Ashish's home. When he came and Ashish saw him for the first time, he couldn't manage to make eye contact with him. Days were passing, condition was deteriorating, and doctors' declaration of very less hope had made everything standstill except Ashish, who was still regularly attending his school and coaching classes from 7 a.m to 10 p.m. When he used to come back at night, mostly Nana was silent and some days, he was groaning in pain.

Initially Ashish used to talk to him. After a few days it reduced to just sitting near him for a few minutes and one day he realized that for 3 to 4 days he was not even seeing him. Deep down, Ashish was finding it difficult to see his idol shrinking and shedding tears in despair. The realization of being a complete naive at dealing with emotions and helping

others was killing Ashish inside. Months passed, now both of them were very distant at the emotional and communication level. He was merely looking and trying hard to smile and helping Nana in having medicines and meals. There were moments when mummy asked him the reason for not "properly" talking to Nana, and he just said "let my examinations get over then I shall spend my entire time with him." Nana went back home once he was a bit stable. But there things got worse again. One day Ashish got the news that his Nana was no more. Ashish was shattered, innume-rable questions started a war within and guilt was trying hard to explode his brain. It took days for Ashish to gather back himself but now he had few realizations unraveling in his mind very clearly. He realized that if this was the kind of emotional attachment he shows to a dying patient who was so close to him, what about strangers who might expect help from him. He realized that every morning he touched his Nana's feet out of respect but instead of that this simple message, "Nana, I love you" could have helped more. He realized that it doesn't matter how much you love, care or pray for someone at the core of your heart, at the end of day, it's only your actions to heal them that count. And the final realization was that his examinations will end one day, his other future related worries will end one day but what will not end on any day was the regret that he didn't say a better goodbye to his Nana. It's been around four years since Ashish last saw him. Ashish is still waiting that someday Nana will come to his dreams and then he will ask him to forgive him and will tell him that he is really improving by every passing day. 🚀

Who am I?

Saurabh Prakash
IMG-2018

Who I am and What am I,
This is the ground for my cry.
And so far, for these years, I have grown,
But to me, I am not known.

Nor from water, nor from earth,
Neither from fire, is my birth.
Secrets of life, I have never known,
From Adam and Eve, I am not born.

I am not the name that I assume,
I'm not in my stillness, nor in my move.
Neither in happiness, nor in sorrow, I am,
Neither clean, nor a filthy swamp.

Neither awake, nor in a sleeping doze,
Not the purest among all these impure.
I belong, neither to plants, nor to the abandoned trees,
Not to the storm, nor to the scented breeze.

Who I am, I may never know,
How far, how long, I may grow.
All I know, I am the first, I am the last,
None other, like me, I have ever known in my present or my past.

Shresth Verma
IPG-2015

Should you be afraid of AI (yet)?

"Will the robots kill us all? Will the skynet control the fate of humanity or will it be the Red Queen? Maybe one day the machines will look down upon us as fossils!!"

Oh, how the popular culture has done its best to tarnish our view of Artificial Intelligence!! Films like Terminator, I Robot, 2001: A Space Odyssey have presented a dark and dystopian scenario of what Robotics and Artificial Intelligence could grow into. Naturally, that makes us skeptical if it's actually the right direction humanity should promote its best minds to work on. On top of it, some of the brilliant entrepreneurs and visionaries of our time such as Bill Gates, Elon Musk, Stephen Hawkings, Steve Wozniak, Neil deGrasse Tyson, and others have expressed their fears about ethical concerns of development in Artificial Intelligence. And yet, the popularity of AI and ML is greater than ever. It has sort of become a cult, with alchemy like workflow where the newcomers can easily build wonderful models in just a few lines of code.

So, back to the initial question? Should we really be afraid? This requires a dive into the domains that AI has creeped into.

AI is creating memes, coloring mangas, writing rap lyrics, singing Taylor Swift's songs, beautifying our selfies, converting Fortnite to PUBG and other crazy things. That doesn't sound very intimidating. But then, it is also driving cars, solving theorems, repairing itself, defeating grandmasters, faking celebrities, walking just like humans and that is overwhelming!! Thus it is necessary to critically analyze the progress of AI in well defined terms. Broadly speaking, there are three stages in the progress of Artificial Intelligence: Artificial Narrow Intelligence(or weak AI), Artificial General Intelligence and Artificial Super Intelligence (or Strong AI).

Narrow AI is what humanity has achieved so far. The AI is really good at performing single tasks such as classifying between cats and dogs, playing the game of Go or predicting stock prices. These systems can also help in assisting professionals with their work because of their ability to draw inference from a large number of samples. It indeed is disruptive in narrow situations but overall, it fails to generalize multiple domains, thus having a serious limitation of lack of transferability to other disciplines (that is why "narrow"). Artificial General Intelligence is the AI that can reason and understand the environment as a human would. This means the AI is as good as humans in performing a wide variety of tasks. But then, we have been saying that since decades. How to actually achieve it? We will come back to this later.

The third stage is Artificial Super Intelligence, and that is even more vague and a distant dream than AGI. It is the stage when the AI can perform all tasks with performance that is better than humans. Perhaps, this is the stage that most science fiction movies depict. But, it is a bit far fetched to worry scenarios that might happen at this stage when we are still clueless about when and how we are actually going to achieve it.

Now, some thoughts into the present state of Artificial Narrow Intelligence and the promising ways that give us hope of achieving Artificial General Intelligence. The most common ingredient these days for computer vision tasks is Convolution Neural Networks (CNN) while language tasks can be perfected using Recurrent Neural Network(RNN) cells. Although backed by elegant linear algebra and strong optimization techniques, these can take us only as far as narrow AI. But for general tasks like decision making from raw observation of the world around, these fail to prove as a standalone tool. And there comes in Reinforcement Learning, the most promising paradigm for literally "teaching" our agent .

Reinforcement Learning is the science of making optimal

decisions. Let us say you want to train a dog to fetch a ball. It's a difficult task because initially, the dog has no clue that we are interested in it fetching the ball. But over multiple iterations, the dog observes that everytime it fetches the ball, you give a treat. And continuing with this strategy, the dog will get "trained" to fetch it. Giving the treat motivates the dog to perform the task and we can even give more treat if the dog fetches faster. The dog will then learn that it's a good behaviour to run fast and fetch it. Now, in this scenario, our dog is the agent, the ball and the playground is the environment and the treat is the reward. The agent interacts with the environment and gets rewards for performing certain actions. The task is thus to learn which are the actions that give the best rewards. Reinforcement learning is also characterized by the fact that there is no supervisor present that tells what is the best possible action and the agent itself has to determine that.

This is the basic idea of reinforcement learning. Couple it with recent advances in deep learning and you get deep reinforcement learning. Presently, most of the research work done in this field is done on games. Why? Because games provide an excellent testbed for training our agents (that is, an AI game player). In practical sense, we can model any real world problem as a game, with a well defined environment, some restricted observations, an AI agent, the allowed actions and the rewards it get for performing those actions. And if we have a game, we can try out our RL agents to become proficient in it. But despite the high computing power in our hand used for training RL algorithms, there still remain numerous simple tasks that the agents struggle to master such as picking blocks, jumping over obstacles, making bed, multi agent scenarios etc.

This shows that AI is still far from doing some tasks that humans do trivially on a day to day basis. We are just trying to simulate human behavior by making agents take baby steps and that too for specific tasks. While we struggle to put our best efforts at making Artificial General Intelligence a reality, strong AI is still a few decades away. So, for now, enjoy looking at those AI generated memes and don't worry too much about machines taking over the world—at least not just yet. Maybe our curiosity will kill us before the robots do. 🚀

The moon

Isn't the moon the dark? The devil or evil or demon, under false scrutiny, which latches itself onto us, luring us with its reflecting light; using the light of the good as a front to keep the rest in darkness, to get ahold of our pure emotions and juggle them.
Maybe we are worshipping the ultimate evil as our prince of unilluminated atmosphere.
Isn't it the dark lord?
The devil or evil or demon, that tampers us, camouflages itself and appear as a savior.

Dark times are tough.
They mould our senses and our emotions.
They makes us vulnerable to evil and its hideous motives.

Can we fight? How can we keep up?
Dark times are supposed to be fought, remaining least dependent and strong,
rather than tumbling through the thorns and not skipping them.

We ain't gonna win, are we?
No.

So, it is what it is, huh? Will fancy solaces always beguile us?
Yes, they will, just like the moon ever will..

Ojaswa Sharma
IMT-2017

सौरभ
शर्मा
IPG-2014

ग्वालियर स्मार्ट पर कैसे ??

आज दौर है डिजिटल इंडिया का। हमारा देश, देश का हर एक बच्चा और हर एक आदमी नवीन तकनीक को अपनाने को उत्सुक खड़ा है। मोदी जी के प्रधानमंत्री बनते ही आई स्मार्ट सिटी परियोजना ने यह उत्सुकता और अधिक बढ़ा दी है। भारत जैसे विकासशील देश में यह डिजिटल क्रान्ति क्या सच में सार्थक हो पाएगी या फिर यह एक चुनावी वादा बन कर रह जाएगा, यह आज भी बहुत बड़ा सवाल है। अब बात करते हैं ग्वालियर की। जितनी तेजी से भारत विकसित होना चाहता है, शायद उतना ही उत्साह ग्वालियर के निवासियों में भी है। लेकिन क्या ग्वालियर इस स्मार्ट सिटी योजना में विकसित हो पायेगा ? क्या ग्वालियर डिजिटल हो पायेगा ? और अगर ऐसा होगा तो कैसे ? आइये इन प्रश्नों के उत्तर ढूंढने का प्रयत्न करते हैं।

क्या है डिजिटल इंडिया प्रोजेक्ट :– डिजिटल इंडिया देश के नवनिर्वाचित प्रधानमंत्री माननीय नरेन्द्र मोदी द्वारा लायी गयी एक अत्यंत लाभकारी परियोजना है। इस योजना के अंतर्गत देश के युवाओं का कौशल विकास, देश में विदेशी निवेश को बढ़ावा, देश के शहरों का नवीनीकरण और ऐसे ही तमाम कार्य प्रस्तावित किये गए हैं।

देश में इस योजना को लेकर उत्साह भी है और संदेह भी कि यह योजना क्या कभी सार्थक रूप ले पायेगी अथवा यह केवल एक स्वप्न मात्र रह जायेगा ? अगर आम जनता कि राय ले तो कुछ का कहना है कि इससे देश में सैकड़ों वर्षों तक भुखमरी, गरीबी, बेरोजगारी और अन्य कई समस्याएँ दूर हो जायेंगी लेकिन कुछ का यह तक है कि इसे केवल चुनावी चाल मान लेना ही उत्तम होगा क्योंकि ऐसा वास्तविकता में संभव नहीं है।

अब कौन सही है कौन गलत, यह तो आने वाला समय ही बताएगा। लेकिन डिजिटलीकरण के लिये आम आदमी में दिख रहे उत्साह और वर्तमान समय में कम्प्यूटरीकरण के युग को देखते हुए यह ही कहा जा सकता है कि **"डिजिटल बनेगा इंडिया, तभी बढेगा इंडिया !!!"**

क्या है स्मार्ट सिटी प्रोजेक्ट :– स्मार्ट शहर के लिए अधिक से अधिक निवेश बुनियादी ढांचे पर अधिकाधिक खर्च, महानगरीय योजना बनाने वाली समितियों का दक्ष होना बेहद ज़रूरी है। **मोदी सरकार भारत के सौ शहरों को 'स्मार्ट' बनाना चाहती है।** लोगों में भी चाह है कि वे स्मार्ट शहरों के निवासी कहलाएं, लिहाजा इस परियोजना पर उनकी नज़र भी बनी हुई है।

लेकिन एक बड़ा सवाल सभी के सामने है और वो ये है कि एक शहर आखिर 'स्मार्ट' कब कहलाता है। सरकार से लेकर इन योजनाओं पर काम करने वाली बहुराष्ट्रीय कंपनियों और आम लोग तक इसका अलग–अलग जवाब देते हैं। ऐसा होना लाज़मी भी है क्योंकि 'स्मार्टनेस' भी परिभाषा सभी के लिए अलग होती है।

निर्माण और वास्तुकला पर जाने–माने लेखक गौतम भाटिया के अनुसार स्मार्ट सिटी 21वीं सदी का शब्द लगता है, जिसे किसी स्मार्टफ़ोन या स्मार्टहाउस की तर्ज पर सोचा गया हो। लेकिन किसी शहर को स्मार्ट कहना मेरे हिसाब से थोड़ा ज़्यादा हो जागए क्योंकि हर शहर की अपनी संस्कृति होती है, कैरेक्टर होता है। हर शहर अपने आप में काफ़ी जटिल होता है, इसलिए उसके लिए 'स्मार्ट सिटी' शब्द का प्रयोग सही नहीं लगता है।

अगर आम आदमी कि बात करें 'स्मार्ट सिटी' शब्द सुनते ही सबसे पहले तस्वीर आती है एक ऐसे शहर की जो काम करता हो, जहां लोग साइकिल चला पाते हों, सड़कों पर पैदल चलने की जगह हो, पार्क हो, यातायात सुलझा हुआ हो। सड़कें और इमारतें योजनाबद्ध तरीके से बनी हों, शहरी और सार्वजनिक यातायात सुलभ है। बिजली,

पानी, इंटरनेट जैसे आम सुविधाओं की अबाध्य आपूर्ति हो। बाकी, शहर का कैरेक्टर तो धीरे–धीरे ही तैयार होता है।

चुनौतियां:
ये किसी नए बसे शहर पर शायद बेहतर फिट हो लेकिन पुराने शहर कैसे बनेंगे स्मार्ट ?
भारतीय शहरों को 'स्मार्ट सिटी' बना पाना आसान काम तो बिल्कुल नहीं होगा। सबसे बड़ी दिक्कत ये है कि हमारे ज़्यादातर पुराने शहर अनियोजित हैं, उनकी सही मैपिंग उपलब्ध नहीं है। इन शहरों की 70 से 80 फ़ीसदी आबादी अनियोजित इलाकों में रहती है। इन इलाकों में लगातार आवाज ही होती रही है। ऐसे में आप काम की शुरुआत भी कैसे कर पाएंगे। इससे आसान तो होगा कि नए शहर ही बसाए जाएँ, जहां हर चीज़ कि प्लानिंग पहले से की गई हो।
क्या 'स्मार्ट सिटी' जैसे कॉन्सेप्ट से विदेश में भारत की छवि को फायदा होगा ?
एक अंतरराष्ट्रीय छवि तैयार करने के उद्देश्य से ही सरकार स्मार्ट सिटी परियोजनाओं पर काम कर रही है। लेकिन एक मत यह भी कहता है कि वो काम करने वाले शहर बनाए, जहां काफ़ी कुछ हो सकता हो, इसके बजाय की उसे सिर्फ़ स्मार्ट साबित करने पर चिंता की जाए।

क्या पूरे देश में 100 शहर चुनकर उन्हें 'स्मार्ट' बनाने की बजाय बुनियादी सुविधाओं पर ध्यान देना चाहिए ?
यह सिर्फ़ सड़कों और मूलभूत सुविधाओं की बात नहीं वरन हमारे शहरों की संरचना और लोगों के रहन–सहन में बढ़ी जटिलता है। शहर की एक बड़ी आबादी पक्के मकानों में रहती है, जबकि लगभग उतनी ही आबादी सड़कों और झुग्गी–झोपड़ियों में रहती है। सरकार को ऐसे शहर बनाने चाहिए, जहां लोगों

के रहन–सहन में थोड़ी समानता दिखे। बाकी कंप्यूटर और इंटरनेट सेवाएं तो इसके बाद भी शुरू की जा सकती है।

क्या है ग्वालियर का स्थान :–

अगर बात ग्वालियर की करें तो स्मार्ट सिटी के लिए प्रदेश से भले ही टॉप 7 सिटी का चयन होना था, लेकिन असली मुकाबला चार महानगरों के बीच था। कांटे के इस मुकाबले में ग्वालियर 84 अंक के साथ चौथे पायदान पर है। चौथा स्थान पाने की वजह से **स्मार्ट सिटी के प्रथम चरण** में ग्वालियर का नाम शामिल नहीं हो पाया। स्वछता

सूची में भी ग्वालियर 800 वें स्थान पर हैं अतः, यह सपना बहुत ही असंभव सा लगता है।

तो कैसे बनेगा ग्वालियर स्मार्ट :–

सबसे पहले ग्वालियर के प्रदूषण को नियंत्रित करना होगा। यह सुनिश्चित करना होगा कि शहर का हर एक युवा कौशल से परिपूर्ण है व कंप्यूटर ज्ञान से युक्त है। शहर कि सडकें साफ व सुनियोजित हैं। इस कार्य में शहर के डिजिटलीकरण में तकनीकी संस्थानों को बढ़ चढ़ कर हिस्सा लेना होगा। तभी यह कार्य सफल हो सकेगा।

अंत में यही कहना चाहूँगा कि –
''मिलेगी परिंदों को मंजिल ये उनके पर बोलते हैं,
रहते हैं कुछ लोग खामोश लेकिन उनके हुनर बोलते हैं।।
खुशबू बनकर गुलों से उड़ा करते हैं,
धुआं बनकर पर्वतों से उड़ा करते हैं,
ये कैंचियाँ खाक हमें उड़ने से रोकेगी,
हम परों से नहीं हौसलों से उड़ा करते हैं।''
जय हिन्द। जय भारत !!🚀

राष्ट्रवादी नहीं तुम

अमित समदर्शी
IPG-2010

इस कविता के माध्यम से मैं अपने उन सभी आत्म–घोषित ''देश–भक्त'' मित्रों को सम्बोधित करना चाहता हूँ जो धर्म–जाति और व्यक्ति–पूजा में राष्ट्रहित को भूल चुके हैं। जिन्हे हमारे देश की शांति व्याकुल कर रही है। जो हर दिन हमारे सामाजिक सौहार्द्र को क्षति पहुंचाने में लगे हुए हैं। ईश्वर मेरे उन सभी ''मित्रों'' को सद्बुद्धि दें।

'' पढे लिखे हो दिखते तुम, अनपढ़ की भांति लिखते तुम,
फेसबुक–व्हाट्सअप की चैट में तुम, विष भरते इंटरनेट में तुम,
तुमने मिथ्या का पान किया, मिथ्या को ही सच जान लिया,
अब धर्म–जाति और भेद को ही, हो ज्ञान बताते फिरते तुम।

व्यक्ति–विशेष के भक्त हो तुम, ऑनलाइन हर वक़्त हो तुम।
हो राग–द्वेष की मूरत तुम, दुर्भाव की सच्ची सूरत तुम,
तुमने है शर्म को छोड़ दिया, हर तथ्य को तुमने मोड़ दिया,
अब कटे–फटे दावों को ही, हो सत्य बताते फिरते तुम।

नफरत के सच्चे दूत हो तुम, भारत माता के कपूत हा तुम,
उस जलती बस की आग हो तुम, रक्त–लिप्त वो दाग हो तुम,
तुमने जब नर–संहार किया, मानवता को भी मार दिया,
अब रक्त–पात और आग को ही, इंसाफ बताते फिरते तुम।

जो हिन्द के हो दीवाने तुम, तो हिन्द को क्यों न जाने तुम,
तार्किकता से अनजाने तुम, बस आये हो शोर मचाने तुम,
तुमने है राष्ट्र–आघात किया, युवाओं को बर्बाद किया,
क्यों राष्ट्रवाद की आड़ लिए, सरकार बनाते फिरते तुम?''

Ashish Kirti Singh
IMT-2017

To infinity and beyond...

Like every other idea, the idea of expanding limits of mankind begins with a story, and ironically it begins with the story of a child. All along the day, he plays under the sun, and finally, when the sun sets, he lies in the lap of his grandma, listening to stories and fables, and finally falls asleep. Be it the scorching sun, the cool clouds, or the gloomy rain, he is always captivated by the nature of the sky, ever-changing, yet still very calm. He thinks how high the sky is, and even though he knows the results, he tries to grab it with his tiny, clumsy hands. Some accept their fate, while the others (hopefully) try to fight it, hoping to reach beyond the sky and grab those small, shiny, twinkling stars.

The universe is full of obscurities. The cosmos, sometimes, seems to be the embodiment of Enigma, waiting patiently for her Alan Turing to break her code and lay it out for the world to see. The ever-flowing time has seen many pioneers trying to push the limits of science in order to break the code, but only a few like Carl Sagan and Neil deGrasse Tyson have really broken free from their bounds. They have helped humankind take a leap further into the unknown cosmos and have laid a firm groundwork for the upcoming trailblazers to make this unknown known.

This day and age has seen large organisations working their way towards the expansion of the reach of mankind. Amongst these industries, SpaceX is certainly one of the most prominent names. Founded in 2002 by entrepreneur Elon Musk, SpaceX aims at reducing space transportation costs and enabling the colonization of Mars. Having successfully realised and launched many first-of-their-kind rockets in the Falcon and Dragon series, SpaceX is literally and ironically bringing the ever-expanding universe, closer to us. The organisation has faced many setbacks, but Musk's resolve and persistence of not giving up, has helped SpaceX to move towards her determined goals. The organisation is actively pursuing several different research and development programs. Most notable are those intended to develop reusable launch vehicles, an interplanetary transport system and a global telecommunications network. SpaceX plans to send their first cargo mission to Mars in 2022, to check the environmental status and to lay the framework for upcoming mis

sions. Future plans include sending of both crew and cargo to Mars, which will serve as beginnings of the first Mars base. But the aspirations of the organisation do not end here. SpaceX also wishes to achieve Earth-to-Earth transportation with the help of its Big Falcon Rocket. It is said that with BFR, long distance trips could be reduced to half an hour or less. The cosmos, along with all its components is undergoing a rapid change. Having realised this, Musk says, "I could either watch it happen or be a part of it."

The question still remains if the changes in cosmos and, tenacity and optimism of the industries have affected the dreams of the child. The child has reached the sky, but his thirst for reaching beyond is still not quenched (and probably never will be). His dream and his never-ending thirst have become the raison d'être for the competing industries. If the odds remain in our favour, it is believed that such innovations may bring about metamorphosis in the humankind so that it could complete its long-awaited spacetime odyssey. 🚀

Puzzle Zone (Answers)

4-545÷5+5   5-A person's Age   6-Stamp

1-An Echo   2-Bookkeeper   3-ENT

Breaking silence over single motherhood

Shraddha Sachan
IPG-2015

A single mother is an individual who cares for one or more of her children without the support of the biological father or her partner.

Typically, women who are spinsters or divorcees either adopt children or conceive babies through modern methods like artificial insemination or surrogate motherhood which makes them assume sole responsible for their children. Emotionally lacerating experiences of their own childhood, like abuse, neglect or abandonment by parents may also make some women sceptic of a connubial relationship and drive them to single motherhood.

Divorce or death of husband is not always the only reason behind a woman being a single mother. She may take this step out of self-interest like Sushmita Sen, the beautiful Indian actress who found her happily-ever-after not with any man, but with her two wonderful adopted daughters. In 2000, when Sushmita was 25 years old, she adopted a baby girl named Renee and chose to take over the responsibilities of motherhood, along with her acting career. In 2010, she adopted another baby girl and named her Alisah. In Sushmita's words, "I don't need a man in my life to have diamonds. I can own them myself." Despite the media being obsessed with her not being married, Sushmita handled the questions about her singlehood with grace. She has set an example for all women in the country – that getting married should not be the only aim in life.

But does our society accept single mothers easily? Does our society confer the same reverence to a single mother which it does to a married woman with a husband and children? The answer is a stark NO. In our Indian culture, every woman is supposed to be dependent on someone, particularly her husband. India does not have a "Singles" culture. The fight for a respectable existence is an arduous one for most single mothers in India, in which case their existence is under a continuous threat. There are several challenges a woman has to face, being a single mother. There is often no other adult to share decision making and financial responsibilities. Balancing household responsibilities, alongside nurturing and disciplining children can be tough. Her sexuality is questioned and she is derided secretly. "Where's the father/husband?", is an extremely common question, from school admissions to places like supermarkets and public offices. Every legal document requires information of the male partner or husband, though the Ministry of External Affairs has recently removed such restrictions in passport rules in December 2016.

Single women who want to become mothers have a harrowing time. Adoption is a rigmarole for them, and even after that, they do not get the respect accorded to a mother in a conventional conjugal relationship.

But not every woman is a Sushmita Sen. The fight for a respectable identity in the Indian society for single mothers still has a long way to go. We need to rethink our public and corporate workforce policies and broaden our understanding of what a family really means and looks like. We need to build a world where families are embraced and supported and loved no matter how they fit together. We need to understand that it takes a community to raise a child and that single mothers need and deserve a much more supportive environment than we currently offer.

We owe it to the single mothers and to their children to do better and to become responsible adults. We must do more as leaders, as co-workers, as neighbours and as friends for ushering a benign society, for a cordial existence of single mothers and their families. People need to change their attitude towards single mothers because there is nothing wrong in being one, as long as the upbringing of the child is right. Everyone has a right to live

their life, according to their wishes and choices impeding the right of independence for single mothers results in a violation of their fundamental human rights. 🚀

#metoo –The women warriors

Ananya Sharma
MBA-2018

For the girl who underwent
the unsolicited touch.
For the girl who was assaulted,
didn't deserve this much.

I know,
It has taken you years
to overcome the fear.
The fear of men,
coming near.

For the trauma stays,
longer than one can visualize.
It never fades away,
no matter how hard one tries.

You remember each sequence
of how you were groped by him.
It's like a cursed movie,
constantly streaming in your brain.
Girl, it's powerful of you,
to gather the long-lost courage.

To speak up against the evil
and address that burning rage.
It's beautiful of how you chose
to come out of the shell.
You've become inspirational,
to the girls who've been living in hell.

For you've given 'em the spine,
to share their ill-fated stories.
To be as bold as they can be,
in ventilating their adversities.
You aren't seeking validation,
the sane minds shall fathom.
I know, all you need is support,
for that is your only attainment.

Everyone knows,
All you want,
is to empower the girls like you.
All you wish,
is for women to come out of the blue.

Concurent programming with Golang

Arvind Rachuri IPG-2015

The world of computing has enormously progressed over the past decade moving from complex tasks on a single mainframe to decoupling computationally intensive tasks into individual processes. These processes are capable of execution on the same processor or on distributed systems. This article introduces the readers to Golang, specifically Concurrent Programming with Golang.

Golang was developed at Google by Rob Pike and Ken Thompson (the man who gave us C) solely with the aim to develop a language that is highly scalable and performant. It is a statically typed language, which first appeared in 2009. One of the characteristic attribute of Go is its inherent support for concurrency. This is one of the features which is not implemented in modern programming languages like C, C++, Java, Python etc at a language level. Because of its simplicity and its support for concurrency, Go is also said to be the C of the 21st century. Before diving straight into it, the article assumes that the reader has a basic understanding of Golang.

The Hello World Program

These are some of the language constructs with which the reader must familiarize themselves in order to write concurrent programs in Golang.

Goroutines

Goroutines and concurrency are built into the core design of Go. They're conceptually similar to threads but function in different manner. One goroutine consumes about 4~5 kB of stack memory. Therefore these are extremely lightweight and cheap to create as compared to system threads. The program below illustrates the contrast between a regular function and a goroutine.

```
//Without Goroutines
package main
import (
“fmt”
)

func say(s string) {
   for i:=0; i<5; i+=1 {
      fmt.Println(s)
   }
}

func main() {
   say(“world”)
   say(“hello”)
}
```

The output would be as you can expect:

```
world
world
world
world
world
hello
hello
hello
hello
hello
```

To transform a regular function into a goroutine, we just need to add the go keyword during the function call. Therefore a concurrent version of this program would look like:

```
//With goroutines
package main
import (
“fmt”
“runtime”
)

func say(s string) {
   for i:=0; i<5; i+=1 {
      runtime.Gosched()
      fmt.Println(s)
   }
}

func main() {
   go say(“world”) //create a new goroutine
   say(“hello”) //current goroutine
}
```

Thus by making the function concurrent, we get the following output:

```
hello
world
hello
world
hello
world
hello
world
hello
```

runtime.Gosched() means let the CPU execute other goroutines, and come back at some point.

Therefore just using the keyword *go*, concurrency is introduced in the program. In the above example, these two gor-

outines share some memory, but it is recommended not to use shared data to communicate but to use communication to share data.

Channels

Goroutines run in the same memory and address space. Thus there is a need to maintain synchronization while accessing the shared memory. To communicate between different goroutines, Go uses a efficient communication mechanism known as channels. A channel is like a two-way pipeline in Unix/Linux shells which is used to send and receive data. The only datatype that can be used in a channel is the channel type defined by the keyword 'chan'. We use a special builtin function *make* to create a channel.

c1 := make(chan int)
c2 := make(chan string, 4)
Both c1 and c2 are channels. The other datatype defines the type of data that flows through the channel, (integers in case of c1 and strings in case of c2). This built-in synchronization construct is what enables programmers to easily and efficiently implement concurrency in Golang. Channels can be used as mutex locks or semaphores according to their declaration. For example, c1 is a mutex as it allows only one integer to pass through the channel at a time i.e. any goroutine making changes to the value of c1 blocks all other goroutines reading or writing to c1 from executing till its operations are finished. Hence it acts like a mutex lock.

Whereas c2 is a semaphore allowing upto four goroutines to simultaneously read values from the channel or write values to it. c2 is an example of a buffered channel. So in this channel, we are able to send 4 elements into it without blocking, but the goroutine will be blocked when you try to send a fifth element and no goroutine receives it.

Let's look at a program to understand the usage of channels better.

```
package main

import "fmt"

func sum(a []int, c chan int) {
total := 0
for _, v := range a {
total += v
}
c <- total // send total to c
}

func main() {
a := []int{7, 2, 8, -9, 4, 0}
c := make(chan int)
go sum(a[:len(a)/2], c)
go sum(a[len(a)/2:], c)
x, y := <-c, <-c // receive from c

fmt.Println(x, y, x+y)
}
```

Channel uses <- operator to send or receive data.
ch <- v //send data
v <-ch //receive data

Runtime Goroutine

The package runtime has some functions for dealing with goroutines.

1) runtime.Goexit() - Exits the current goroutine, but defered functions will be executed as usual.
2) runtime.Gosched() - Lets the scheduler execute other goroutines and comes back at some point.
3) runtime.NumCPU()int- Returns the number of CPU cores.
4) runtime.NumGoroutine() int - Returns the number of goroutines.
5) runtime.GOMAXPROCS(n int) int - Sets how many CPU cores you want to use.

Concurrency in Golang is a huge subject and there are many more constructs and techniques that have to be mastered. The topics described in this article are just the tip of the iceberg but are basics that need to be completely understood in order to write concurrent programs in Golang. There are several resources available on the internet if the reader wishes to take a deep dive into the world of concurrency. A really intutive talk by Rob Pike, the creator of Golang describes the concurrency titled - "Concurrency is not Parallelism". The reader is encouraged to watch the video to understand the nitty-gritty of concurrency.
Happy Coding! 🚀

Rotaract: We together, bring change

Shraddha Tripathi IPG-2016

Community service engages us with the coterie, helps us to create special bonds with the population being served, and increases our social awareness and responsibility. Community service or volunteerism allows us to acquire life skills and knowledge while bestowing service upon those who are worth it the most. While serving the people and surroundings around us, we have the room for manoeuvre to see first-hand just how much our work can have an impact on the world. Volunteering helps us to boost our personal knowledge, evolve from novel experiences, and burgeon better interpersonal as well as communicative skills. When we find ourselves actively engaged with the community, depression and stress can barely penetrate past our skin.

"The Rotary Ideal is that within us that makes us know that when we are serving others, we're building ourselves."
-Harry Rogers

Rotaract Club of Youth at IIITM Gwalior has been designed to cater exactly to the aforementioned needs. This Club provides ample opportunities for young people to develop the knowledge and skills that will assist them in personal development and to address the physical and social needs of the communities. We enjoy what we do as we love connecting to the community, growing as leaders, grooming our personality, and building networks. We provide a collaborative and interactive environment to make long-lasting friendships as we believe every successful organisation is fabricated upon the framework of friendship.

Owing to our beliefs, we had conducted a plethora of events during past academic session. We had kick-started with a cleanliness campaign. Access to an aseptic neighbourhood has turned into a hard-to-earn luxury these days. On 15th August 2017, we had gathered near the Achleshwar Temple. We began our mission of educating people about importance of sanitation, not just for sake of aesthetics but for their own well-being. Our next event was Crosstalk. It was an interactive session between soon-to-be pass-out seniors and first-year students. Our motive with respect to this event is not just helping our juniors get a career focus, but also eliminating the boundary between juniors and seniors. It was followed by Cloth donation and Buy-a-Book, two quite similar events in terms of intent. The entire IIITM Family alike contributed to the cause for the people belonging to the lower socio-economic strata in an unequivocal manner. On the propitious occasion of Independence Day, we had conducted an appreciation ceremony. We presented mementos to some of the workers in order to acknowledge the sweat they had shed for our comfort. This very act of ours didn't just bring a sweet smile on their faces but also motivated them to keep up doing the good work they've already been doing. A few weeks later, we celebrated Rakshabandhan in Shantiniketan, an all-girls orphanage in Gwalior. Rotaract members got their wrist wrapped up in rakhi, a symbol of adamantine bonding.

Our Mission Ahead: We've introduced a new concept, Humans of Gwalior. We aim to identify ordinary people who pull off an extraordinary amount of hard-work every single day and contribute to the growth and development of this amazing city. We ask them about their life path, their dreams and passions. We believe that everyone working hard, no matter how vapid his or her life may seem has got a story worth sharing. We wish to bring out such stories among masses which will serve as an inspiration for generations to come. We would like to acknowledge the fact that we are coming on the back of an amazing year and we achieved a lot more than ever before. We would like to keep moving on our quest to make this world a bit better than we had found it in the first place.🧎

Shubham Shukla IPG-2014

Being Gen-Y

The smartphone era has moved from Android 8.0(oreo) to 9.0(pie). The desktop audience has made a shift from Windows XP to Windows 10. Metal guitars have replaced sitar and for us youngsters, it is time now to come out of the bounds of Gen-X and dive into the ever growing and ever flowing stream of Gen-Y. The Gen-Y is smart, is technical and is visionary. The youth today aspires to be popular, to be self dependent. They are born with a never dying spirit of earning fame. They are greedy, they are ambitious, they are the Gen-Y. Being a part of Gen-Y is not something evident to us until we make the shift from school to college, and meet more and more likeminded youngsters. When your heavy school bags are replaced by a notebook in hand, when your siblings are replaced by roommates and when your home is replaced by the hostel.

College life encapsulates a sense of independence which you might never have enjoyed. The joy to plan your activitites, the joy to take your decisions, the joy to make an identity of your own. Contrary to popular believes, college is not just a place to learn academics and go through a new set of books, it is a place to learn a better way to live life - the Gen-Y life. In this article, let us go through some points that shall let you grab the Gen-Y tag.

MATURITY

The first and foremost thing that a college student should possess is maturity. But let me make a clear demarcation between being mature and ending innocence. You have to be mature at your thoughts rather than being at your actions. Your ideology, your frame of mind should be backed by maturity. If you can think like a grown up and enjoy as a kid at the same time, you are almost ready to be called a mature lad. Remember, life is like a game of chess, the lesser time you take in understanding it, more chances you have of mastering it.

ATTITUDE

The first thing any third person observes in you is your attitude. Utilize these 4-5 years of college life to build an attitude, but before you know how to enhance your attitude, let me draw a clear demarcation between attitude, ego and self-respect. On a casual observation these words may seem to be synonymous but take a halt guys, these three words are very different. Make a note when I say, enhance your attitude, raise your self respect and subdue your ego. Make your problems face your attitude, not your fellow batch mates. A 'never giving up' attitude charms people more than anything else. Real men shine when the aura is darkest. Fight your way out

through the darkest parts of the jungle and shine like a polestar, and I bet, you will be the topic of discussion.

DETERMINATION

The trend of digitization has bestowed us, students, with a bunch of new opportunities. In order to make a mark, you no longer are forced to be a doctor or an engineer, you just have to be good at being yourselves. Its no more a question of turning right or left, it is about backing yourself up with the zeal of proving your choice correct, whatsoever it might be.

VERSATILITY

This period of college life is the best phase to explore yourself. You can never stand out of the crowd until and unless you turn dynamic. The world, society, technology and customs are changing at the speed of knots, and you can never keep pace with them if you are static. You can very easily find a software professional also being an efficient guitarist, and this is where versatility hits you.

COME OUT OF YOUR COMFORT ZONE

Nothing great has ever been achieved inside the premises of comfort zone. College life is the best place to step out of it. You have less expectations, almost no pressure of the outcomes, and time, on your side. Take a leap out of your comfort zone and explore what lies ahead. Face your problems and learn from them.

TAKE RESPONSIBILITY

With great power comes great responsibilities. And everyone knows the powerful. Never hesitate in taking up responsibility, though you must prepare yourself beforehand for them. Be the one everyone can bank upon for any kind of work, and you will be the one searched for.

BUILD HOBBIES

The things you do when you have nothing to do, are certainly in your radar. You do have keen interest in these tasks and are better than many at performing them. I would like to quote myself as an example here. I always had an inclination towards public speaking. I was caught many a times in front of the mirror, babbling to myself with face full of expressions, and a decade later I rose to be one of the best orators of my school, getting dozens of trophies in debates, extempore and group discussions.

A nice hobby (or to be precise, a set of nice hobbies) is like having a strong foundation, you just have to build the walls with a touch of proficiency and you will get on your tasks as easily as a hot knife on butter. And for those who have sleeping as their hobbies. Well I categorize it as their laziness, and it's high time for them to do something. Reading, penning down rhymes or even thinking unnatural is blessings to have as a hobby. For those who are still pondering over the thinking unnatural part, J.K. Rowling, author of famous Harry Potter series, was an unnatural thinker and was struck with the idea of Harry Potter series during a train journey, when she was drenched deep in her hobby session.

BEING DIFFERENT

Don't become the part of rat race. With the booming crowd, if you want to stand yourself out of it, you have to be different. If you want the world to look you differently you have to look at this world differently.

These are my takes on how to live a worthwhile life as a Gen-Y youngster. Please dont spend these golden years of college and youth in just building your resume, build a life and some very healthy habits. 🚀

मुट्ठी में तकदीर

अभ्यानंद कुमार
IMT-2018

मुट्ठी में तकदीर
अपनी शक्ति अब जान तू ले,
अद्भुत करने की ठान तू ले।
अब सपने तुझे जगायेंगे,
पग जोर की दौड़ लगायेंगे।
साधन जो तेरे साथ खड़े,
अवसर जो तेरे पास पड़े।
उन सबको अब अपनाना है,
क्षितीज के पार जो जाना है।
पर्वत में राह बना लोगे,
सागर के मोती पा लोगें,
जीतने की चाह जगा लोगे,
तो मंजिल पास बुला लोगे।
अपनी क्षमता का भान जो कर, शाक्ति का पौधा सींचोगे;
अपनी हाथों से हाथों पर, किस्मत की रेखा खींचोगे।
बाधा से जब टकराते हो, समझो बस सरस यही क्षण है,
आगे बढ़ने की आग जले, तो वही आनंद का जीवन है।

TEAM
AASF

Friends Fun & Dreams

Abhishar is a good friend of students. He listens to their thoughts and experiences. Abhishar tries to chalk out easy solutions for students' problems. They feel motivated on talking to him to showcase their hidden talents. Personally, we feel he carries with him a very positive air and is capable of spreading happiness around. And we will try and make all the possible efforts to help him with this splendid companionship with you.

I would like to express my gratitude to Mr. Prajwal Singh, BCS-2017, for his valuable efforts in realising Abhishar and his friends in "Friends Fun & Dreams". We couldn't have done it without him.

Flavoured inheritance

Shubham Shukla
IPG-2015
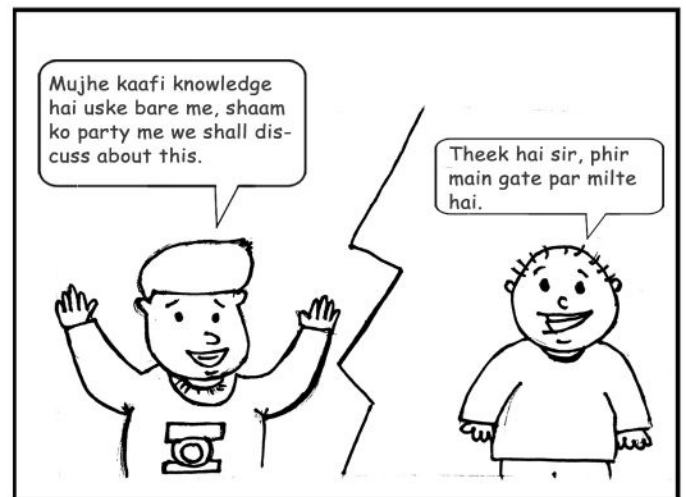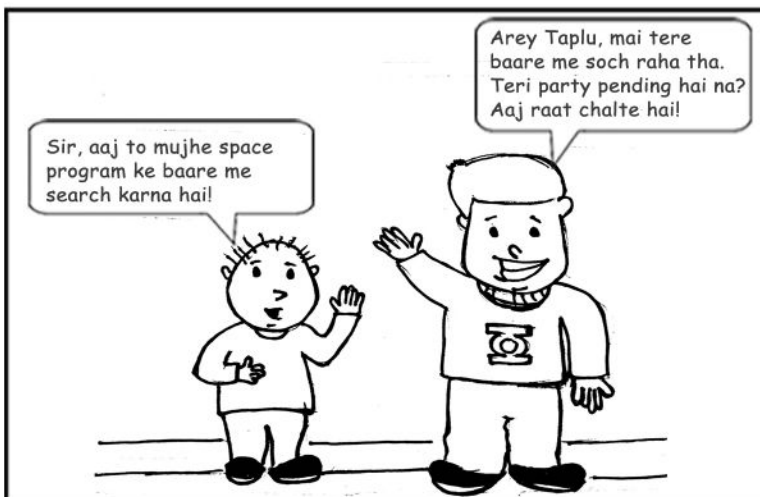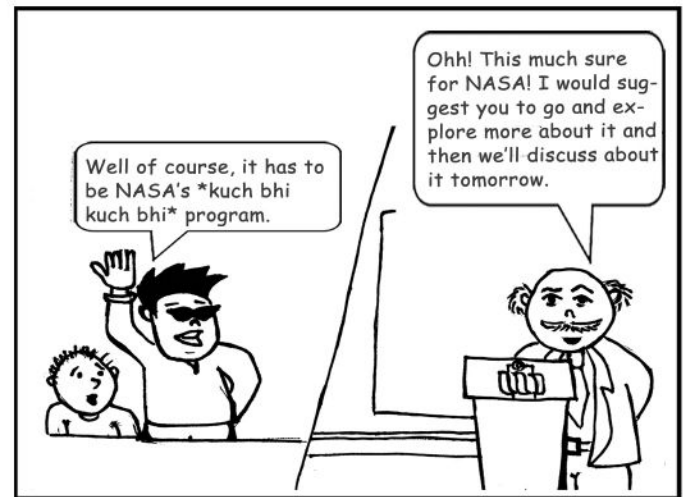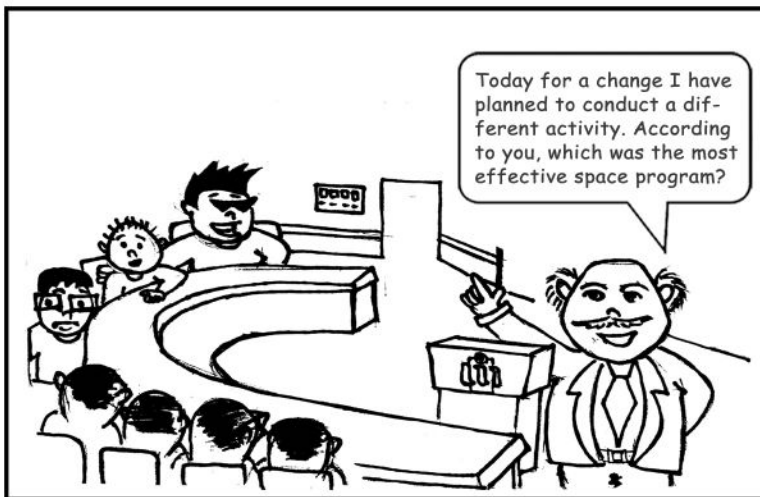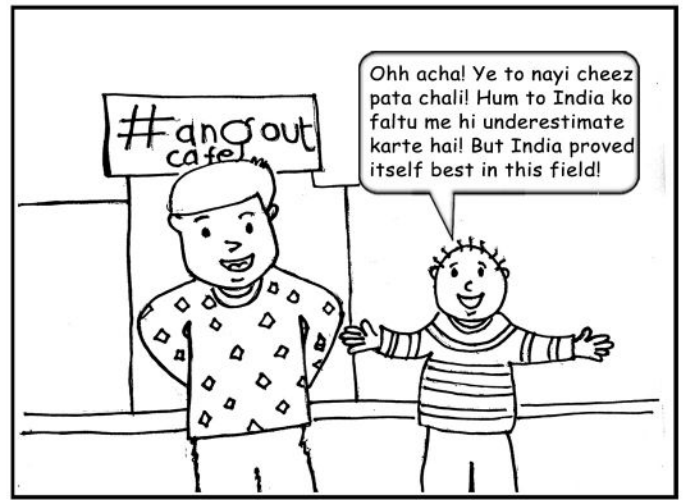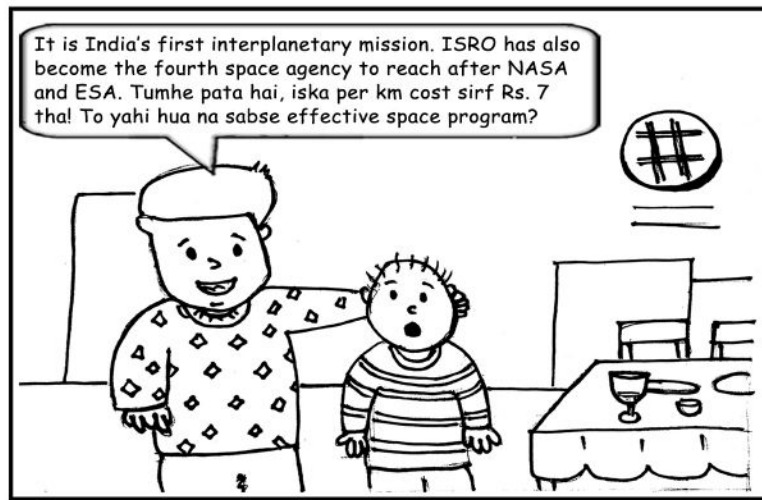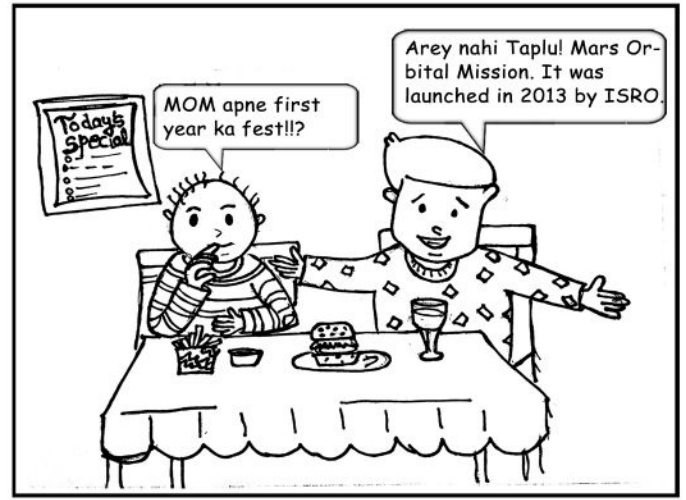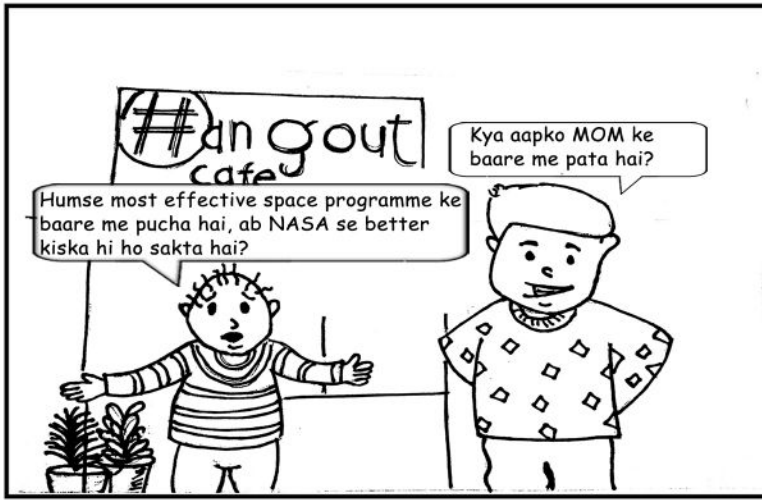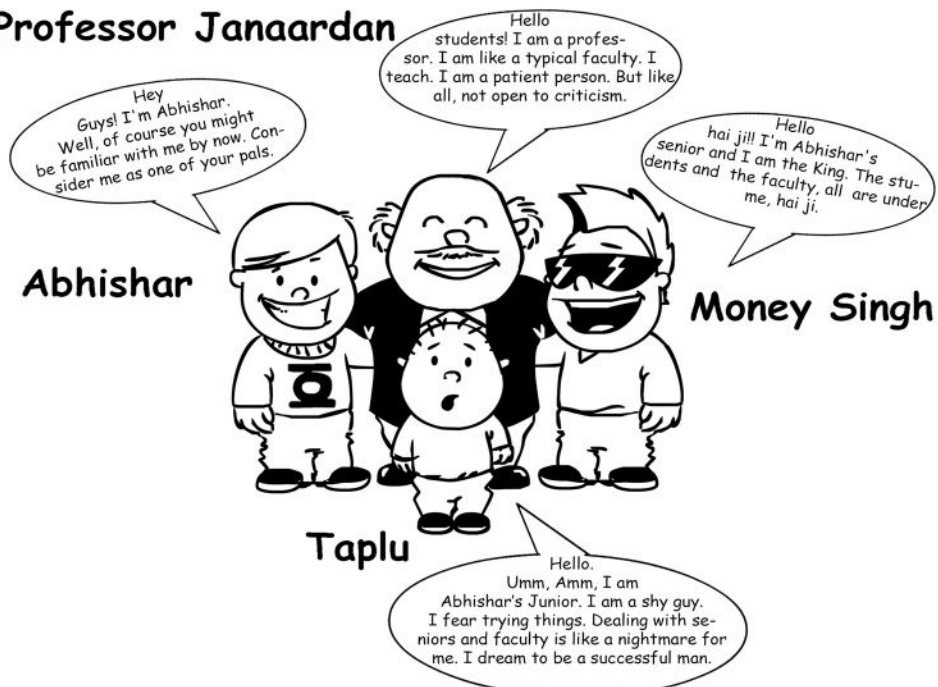
The development environment in our institute mainly covers web development, app development, sometimes game development and development using .NET. They all involve working with classes and objects. A widely used concept for object oriented programming is inheritance. Understanding this concept is a basic requirement for development of open source softwares. We will discuss multiple inheritance and how to tackle issues related with it smoothly.

To begin with, let's consider an Object-Oriented Programming language like C++. There are many languages to choose from: Java, Python, Ruby, Go, PHP etc. Inheritance is a concept in OOPs which is used to share properties and methods of existing classes with new classes. In simple words, inheritance is a way to express a relationship between classes. But a lot of Object-Oriented languages don't allow multiple inheritance because of the diamond problem. This means that a class can't inherit multiple parent classes. We will first understand a few such common problems, what they mean in practical situations and how we can overcome them.

As an example, say we want to introduce a new feature to all types of Support Vector Machines in a library. Since they all need to share this feature, it's not good design to copy paste the feature into all of them. What we do instead is make a new CommonSVM class which will implement this behaviour. All the SVMs will simply inherit it from this class. This is a cleaner solution. But then later in the development phase we realise that this new feature is needed in all the tree based (Decision Tree, RandomForest etc) models too. Ofcourse we cannot make all of the trees inherit from CommonSVM class. We will need to create a new CommonTree class which does the exact same thing for trees as CommonSVM did for SVM. There would be a lot of code duplication and quite a bad design.

To understand more about the problem let's talk about microcontrollers. A microcontroller is basically a processor with a bunch of peripheral drivers on a single chip. There are millions of different kinds of microcontrollers, so if we want to write code for a driver we want it to be cross-platform. But how to implement cross-platform when you have tens of thousands of platforms. How do you write bare metal drivers properly? This problem scales upwards in complex libraries where the need to support different primitive types(int, long, float) among various functionalities is important. Since, C is essentially a portable compiler we can think of C, C++ based solutions to write various functional components and then write some glue code to combine them together. Using inheritance and virtual functions is a popular solution and many libraries like Qt and Shogun use it. However, this makes the code very slow to execute, since the compiler does not know beforehand what the runtime memory requirements could entail to. Thus, it ends up taking unnecessary amounts of memory.

A popular solution to this is using mixins. To understand mixins, let's talk about ice cream. There's this concept of ice cream mixins that goes back a long time where you have a base flavor of ice cream and then you can put things like fruit jam or chocolate chips and then mix it up. Essentially you can have many different flavors of ice cream with a few basic composable ice cream types. We can think of butterscotch or black currant as an example. This naming convention was stolen and applied to software where you have a bunch of functional components which you can compose together to make a different object. It's a strategy of customization points. Many languages have this intrinsically, for example D or common lisp. C doesn't really have mixins. By using mixins we look into ways for extracting different functional components generically so that we make template

meta programming write the glue code for us.

In object-oriented programming languages, a Mixin is a class that contains methods to be used by other classes without having to be the parent class of the other classes. How the other classes gain access to the mixin's methods, depends on the language. Mixins are sometimes described as being "included" rather than "inherited". They encourage code reuse and this can be used to avoid the inheritance ambiguity that multiple inheritance can cause (the "diamond problem"). They can also be used to work around lack of support for multiple inheritance in a language. A mixin can also be viewed as an interface among implemented methods.

How does a mixin work? A mixin provides methods that implement a certain behavior, but we do not use it alone, we use it to add the behavior to other classes. When creating an object from a mixin class, a base class (parent class of the object) needs to be passed as a template argument. The mixin will include the base class and make a new parent class (logically by merging) for the object. The object will then inherit from this merged class. Independently, mixins cannot be instantiated due to absence of a parent class. The advantage here is the fact that we can also pass multiple arguments to inherit from.

C++ has plain multiple inheritance, but many language designs forbid it as it could be dangerous. Languages like Ruby and PHP however use mixins or traits to do the same thing. Mixins/traits are harder to abuse than plain multiple inheritance. The whole point of introducing mixins in a language is to remove ambiguity caused by multiple inheritance. Hence, the Mixins & Traits approach allows you to describe types by what they can do rather than what they are, and more importantly, to opt-in capabilities into your types. It's like doing your shopping and picking the capabilities you want for your type, whatever the class they inherit, if any. 🚀

मैं बदल रहा हूँ

मिथिलेश कुमार
IMT-2018

आज जब मैं बाहर,
कड़ी धूप में निकलता हूँ।
खुद को डरा, हारा,
बेचैन मैं पाता हूँ।

शायद ये धूप ताकतवर नहीं,
मैं कमज़ोर पड़ चुका हूँ।
क्यों कि बचपन में पहले भी,
मैं इस धूप से मिल चुका हूँ।

तब जब मैं अपने दोस्तों के साथ,
इस धूप में खेलता था।
ये मेरे सिर का बोझ बनकर नहीं,
दोस्त बनकर चलता था।

आज मैं कुछ क्षणों के लिए जब,
ज़िन्दगी के भाग दौड़ से हटता हूँ।
मैं इस दुनिया को नहीं बल्कि,
खुद को बदलता पाता हूँ।

मैं कल के लालच में,
अपने आज को छीन रहा हूँ।
शायद मैं अपने आप से,
अपने आप को छीन रहा हूँ।

Mental illness: A black sheep

Neha Sharma
MBA-2018

Mental illness, whenever this term comes before us we tend to ignore it always as we think this is not an important thing to discuss or maybe we don't need a discussion on this. But just think for once that, if this is an irrelevant issue for us to ignore? This really raises an important question - are we really "educated", since the main purpose of education is to improve the mentality and to abolish the narrow mindsets which are hampering the success of an individual, or the society as a whole. Even in this 21st century, we are not properly aware about a very important aspect of human body i.e. mental health and the problems associated with it. There are so many stigmas attached to it. If a person is suffering from some mental illness then he/she is considered a bane. It seems like we have adopted some sort of prejudiced attitude towards human mind. If you are having some physical health issue then its very much "normal", but even in the darkest dreams of yours if you accidentally suffer from some mental health issue you are directly termed as "abnormal".

In this century, where our lifestyles have changed drastically we have become much more prone to stress, anxiety and other mental issues.

Now, its the need of the hour to seriously consider these issues and also to accept individuals that are suffering from these issues. According to a report by World Health Organisation it has been estimated that 56 million people are suffering from depression and 38 million from anxiety disorders in India. Mental distress is one of the major cause of students committing suicide every one hour.

Actually the problem is our fixed mindset towards this particular issue. We have such rigid and stagnant mindset when it comes to mental health that we tend to unsee the reality. That's why most of the people are unable to identify that they are having some issue and they lead their whole life in distress.

The problem lies on both ends: at the end of the sufferer as well as the end of the society. Firstly the sufferer is unable to identify that he/she needs help and their illness is not even diagnosed and if in case their illness is diagnosed the sufferer himself/herself is unable to accept that having a mental illness is as normal as having a physical illness. And when it comes to the part of society they consider it as a thing to be ashamed of. In most cases even families are not in support, which worsens the condition. We need to understand that a person suffering from some mental illness needs our utmost attention and care and above all they need acceptance. People fear that such people are violent and are not safe for the society. They even consider that having a mental illness is a sign of weakness and these issues are usually encountered by persons who are mentally weak. But it's not true.

Every person is equally prone to these issues. Every person experiences high and low phases and usually they pass but a probability also exists that these phases might not pass and may become permanent. When a person is suffering from some physical illness we sympathize with the pain of that person but if a person is having some mental ailment then we are not even sensitive enough to behave properly with them and even give zero efforts to try to understand what they are going through. As a result, sufferers are not even able to share their problems. Living with a mental illness is much more difficult than living with a physical illness. The extent of pain through which these people are going is possibly unimaginable for us.

If a person catches some infection or cold, he/she will see a doctor but if a person is having anxiety or anything similar from a long time, he/she might not even think of visiting a shrink. Because visiting a doctor in this case is a sign of "weakness". And even for peo-

not even think of visiting a shrink. Because visiting a doctor in this case is a sign of "weakness". And even for people who want to visit professionals, a major problem is standing before them. A study shows that in this country with a population of over 1.3 billion, there are just 5,000 psychiatrists and less than 2,000 clinical psychologists. The problem is that there is zero awareness in this field, patients are not aware about their illness so doctors are also not motivated to choose this field as their career and in some cases, their families also don't support their decision of choosing this field. We can see how pathetic the condition is in our country.

It's an alarming situation. We need to understand that only with the contribution of all of us, it is possible to improve mental health scenario.

Firstly, we need to accept that illnesses like depression, anxiety, bipolar disorder, panic attacks etc. can occur jus like other diseases like cold, cancer, infection, jaundice etc. can occur. There is no rocket science needed to understand and accept this fact. It's just that we need to have an open mind and an open heart as well. Secondly, as a family we should have a more open outlook towards our family member who is suffering from some mental ailment. They need our support, care and acceptance. It's important to talk to them and find out what is wrong with them and it is of utmost importance to consult a professional if you feel like that they need help. If we will be there by their side it will give them a lot of strength to fight this battle. This is the least we can do, despite knowing that only they can fight their battle but we can at least motivate them to not give up and can also motivate them to try to develop a positive outlook for themselves.

It's important to motivate them to come out of this black pit,without which there is no surety that they will be able to travel alone. If we are successful in developing this attitude in our society and if the society as a whole gets aware then these illnesses will not take a monstrous form and also we will have a well-equipped army (professionals, society and the patient himself/herself) to defeat this monster. If we start accepting that mental illness is just another type of illness and not the result of bad fate, then it is possible that the coming generation will be able to see a much more brighter sun with a fully aware and an accepting society.

Having a mental illness is not similar to having a cold, it might be equivalent to having a cancer if proper measures are not taken in time. It may force a person towards a painful and slow death. 🚀

प्रकृति का स्वर

शिवम सोनी
IMT-2018

लगता है जैसे सब कुछ थम सा गया है
ये प्रकृति कां स्वर कुछ गुम सा गया है।
लगता है जैसे सब कुछ थम सा गया है
ये प्रकृति का स्वर कुछ गुम सा गया है।।

वो चह चहाते पछियों का स्वर
वो सिर सिराते पौधों की सिसिर
लगता है जैसे सब कुछ बदल सा गया है
ये प्रकृति का स्वर कुछ गुम सा गया है।

वो सुबह सुबह जल्दी स्कूल जाना उल्लास
वो शाम से रात तक मित्रों के साथ खेलने का अहसास
लगता है जैसे सब कुछ बदल सा गया है
ये प्रकृति का स्वर कुछ गुम सा गया है।।

वो मित्रों के लिए कुछ भी कर गुजरने का जज़्बा
वो भाइयों का बहनों पर जान छिड़कने का जज़्बा
आज भाई भाई का दुश्मन बन सा गया है
लगता है जैसे सब कुछ बदल सा गया है
ये प्रकृति का स्वर कुछ गुम सा गया है।।
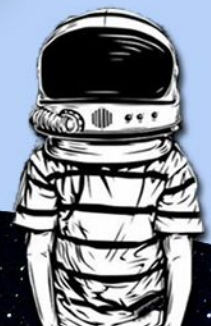
Journey to the centre of my dreams

Irita Mishra IPG-2013

Disclaimer: I always rant about my experiences, so skip this one if you don't want to read about some crazy old senior who always puts weird disclaimers in all her Abhishar articles which she can't bring herself about to read the next year because they sound so non-hilarious. You see my point, don't you? This probably feels less and less like a disclaimer if you're still reading, let me just begin the real article.

We've all imagined how we want to live our lives, right? It definitely involves a ton of money, an eye candy on the arm and vacations in all the exotic places we cannot pronounce, doesn't it? If it doesn't, you got to chill out more and have better aspirations man (not with this ghetto English though, lol)! I say this like I mean it. And I do. I was always this little girl who had stars in her eyes and hopes of reaching for the moon. It was maybe because I read too many books and got lost in all the fiction that kept me in its seductive company for hours at end. Or maybe, I always believed in the impossible which in my dictionary meant something that was just harder to achieve. I dreamt of contributing to the world in a big way, making an impact with my experiences and life, like I had read in all those books and novels as a kid.

All my dreams and desires came to a stop when I came to ABV-IIITM. College life changed my perspective. The very innocent girl whose life was constricted to the pages of the books she read, was now in a demanding, radical world with real people and real emotions. I forgot my dreams as I scrambled to be a part of this new setup where everyone seemed to willingly enslave themselves to code day in and day out. I respect those who find solace in the trade but I wasn't cut out for something like that. But the worst part was that there was no one who felt what I did. Or maybe they did not want to admit to themselves or others that they did. All I know is that I was on this path alone, fending for myself at every step of my sad, little five-year long journey.

I was one of those students who always topped during her school days, so imagine how much it broke me when I flunked a subject during my B.Tech because I couldn't understand why I was studying it and I couldn't cram my way to get a decent score. It took me a long time to realize that maybe, I wasn't cut out to be an engineer, much less a coder. But I realized it in time to shift over to MBA in my fourth year. And I found these incredible people who felt what I did, to some extent. We were the broken ones, just wise enough to know that we wouldn't survive a day if we put our efforts to code or develop like our other "engineer friends". We were broken because we didn't know where to go; we were the misfits. Little did we know that we would create our own new, exciting world full of fun and things to learn. Our classes became more interactive as we debated on and presented topics that were relatable to us. We were studying more subjects than our counterparts in M.Tech but we were enjoying it.

And amidst all this, the little girl in me rose again. I wanted to document my life just the way I had read in those novels all those years ago. For that, I had to make it epic enough to be an interesting read. For that, I had to have a unique story to tell. I started writing my own destiny. I knew my strengths and I started learning how to put them to good use. I wanted to study more, become well-versed with the subjects I was passionate about and gain more knowledge. I set out to prepare for PhD abroad, doing projects and writing research papers. People who knew about my aspiration called me 'Phira Hua Dimaag' (the very famous version of the full form of PhD). Nobody actually understood why I wanted to do a PhD when I could easily get a good job and settle down in a metropolitan city, like everybody else. Instead I was ready to slog hard

hard and lose all my hair to the tension-filled, uber-tough life of research.

I also didn't believe that any university would actually take my application seriously. After all, I was just a 22 year old with no work experience, applying to the best universities in the US. I was sure that all universities would reject me because of my immature professional profile. But apparently, there were some people out there, on the other side of the world who felt like I had the potential to create some unique research. A few interviews later, I was all set to study some 15,000 kilometers away from home and live the big, American dream. When I finally arrived in the US two months ago and talked to the very same professors who had interviewed me and selected me for my PhD program, they all said one thing to me: "We felt that you can do great things in this program because of the conviction in your voice that you really want to do this. Please ensure that you do not lose it."

I realized that they had recog-nized that little girl in me with those big dreams and a burning desire to make a mark on the world. I was also the youngest student to ever take admission in any PhD program in this university. So now, instead of curbing my dreams or repressing my aspirations, I have set out in this new world to conquer my fears and hurdles, and prove the power of my determination to etch my name in the history of this world. It is a tough life out here but I know what I signed up for. I feel proud that I represent my country in the most charming way, that is, through my intellect and creativity. It is an eye-opening experience because I am learning a lot and assimilating heaps of knowledge like always wanted to

I do not write this because I want to brag about myself or demand appreciation for what I did. This is my unique story and for those who are still reading this, I am sure your story will be another epic saga altogether! My sole aim for sharing my life yet again in Abhishar is to enunciate that there ain't no mountain high enough, ain't no valley low enough, ain't no river wild enough, to keep you from your dreams. (Yeah, it's a poor adaptation of the awesome Marvin Gaye song but it is what it is.) Remind yourself of what you want to accomplish and repeat it to yourself every-day like the Wolf of Wall Street hum, beating your chest with your fist in rhythm (or not, lol). Know that you are capable of wonderful things; you only need to put your heart and soul to accomplishing what you desire. There is no shortcut to success but that road sure is lit and ready to be trodden. Never forget that you got only one life you can remember and there is a big, colorful world Iout there that needs to be conquered. Give wings to your goals and take flight! And, if you ever come to the US, text me and we will catch up because I miss IIITM.

Cheers! 🚀

Irita Mishra (IPG-2013) is currently pursuing PhD and is a great orator and writer.

Beauty is incomparable

Rishab Singla
IMT-2018

The face of a toddler,
without using any moulder,
is cheerful, joyful, adorable
but incomparable.

The moments of childhood,
the friends and that brotherhood
we were when unstable,
that phase was incomparable.

The love of a mother,
the world shown by a father,
is beautiful and palpable
but incomparable.

The beauty of nature,
amidst her creature,
giving a mighty flavour
that will last for ever,
that beauty is incomparable…

ADIEU

Technos

These 5 years have been a memorable ride for all of us. How far we have arrived is something amusing and alluring at the same time. When we arrived we were strangers to each other. But now we are leaving as a family. Each one of us have been through moments of joy, sorrow, excitement and what not and we have shared it all with each other. We are definitely going to cherish these moments throughout our life.

Kriti Singhal

Bidding goodbyes have never been easy! The memories we all shared are countless and unforgettable. These 5 years have indeed been the most beautiful years of my life. However hard the paths be, it becomes so easy with these people walking by your side. Those parties, those kitchen sessions, those 3 am talks, last moment studying, will all be missed deeply! Create as many bonds as you can, make as many memories as you can coz that's all you're gonna have when you leave this place. Live every moment to the fullest, break the rules, explore yourself and keep spreading smiles. Sayonara!

Utkarsh Yadav

We may come from different background but here we all are cherishing each and every memory spent together. Maybe the distance can separate us apart but when we will look back at our days together, that midnight birthday bums, that late night fear of exams, those bunks and proxy, we will have all those memories preserved. Fifth year makes you realise that no matter how much you hated your academics, in the end you will always miss the time spent together. It may be an end to this chapter but the characters in this chapter are for life. All I remember is that a famous line "It's like the end of an era."

Chahes Chopra

New hostel life-no friends-yucky mess food to endless memories-countless friends. The integrated course of 5 years is a blessing in disguise. The fests, trips, birthdays and even the exams were good enough to give us some unforgettable memories. Bookworm to slacker, introvert to extrovert, religious vegetarian to a non-veg lover, IIITM transformed all of us into a whole new personality. Going to miss each and everything about this college. Will sign-off with not a goodbye but a thank you for all life long bonds and memories. So here it is, to the amazing 5 years of our life. Cheers!

ADIEU

Aniket Gupta

You now stand at the threshold of a dream life .This 5 year journey would build your future. I would like to share some of the things that have shaped my life too. You are always a learner, read as much as you can, enjoy travelling in your college life with your friends. Never give up on your dreams and keep hustling. Wish you all a great journey ahead. At last, I'll say - **" Babumushoi zindagi badi honi chaiye... lambi nahin."**

Manish Das Mohapatra

The times together with such solicitous friends has taught me things about life. "I've learned that goodbyes will always hurt, pictures will never replace being there, thanks is a feeble word, some mistakes deserve forgivance, words can never replace feelings, and love will always be there no matter how much hate. " Coming up on the epilogue of this story, I know for sure, we are not going to shed tears because we know this might be the end of 5 swift years, but this is not the end of us. Cheers, to the good days ahead. Long live The Pied Pipers.

Lingala Bhargavi

These five years of college life flew away in a heartbeat. It seems as if it was yesterday that I joined this institute having myriad questions Nevertheless, I am proud that I would be departing with a bag full of values this college life has taught me – treating people of different religions and cultures equally , the Rich and the Poor; importance of time and finally what true friendship is! We all are united regardless of all the differences. Salute to the education- it has transformed us into real human. This college life has made me understand the true essence of life!

Sneha Susarla

Five years seemed like a lifetime when I first came here, but it's crazy how the years fly by. There was adrenaline, drama, loyalty, adventure, learning, love, growth, and most importantly, friendships that are destined to last a lifetime, all in one place. ABV-IIITM, with all its quirks, has been like home for the past five amazing years and it pains me to bid good bye to the family that I have found here. To all the juniors reading this, make the most of the time you have left of the five golden years of your life, dare to stand out and find your passion. I wish you all the very best in your life ahead!

Abhishar : A cradle for budding writers

Deepankar Singh
IPG-2016

We are engineers but amongst us there are many who can be the next Michael Jackson, many who can be the next Leonardo Di Caprio and many who can be the next JK Rowling.

Writing is an emotion which comes from the heart right onto paper. The nostalgia that you feel but can't get rid of, the joy that you experience but can't share with others, the sorrow that you mourn but can't get away from are all emotions that can be penned down and released into this universe for others to feel. Many amongst us are very emotional but only a few find the right platform to showcase their emotions.

Every college has a magazine which showcases the writing abilities, intellectual and emotional thought process and creativity of the students. Abhishar, the annual magazine of our college is one such platform for emerging writers.

It's an all together amazing experience when you develop a keen interest in learning new words when you read articles written by your peers. People who have had interest in writing but couldn't nurture it due to academics can always start writing again to outflow their emotions which can open doors to new dimensions of career. College is the phase where one has a lot of time to build his personality weaving each and every aspect of it all together.

Ever wondered what makes a writer exceptional from others? It's not the use of those heavy words whose meanings you have to look for in the dictionary nor it's the brand value of the publisher. An exceptional writer is one who can connect with the masses at the very fundamental level, that is emotional level. If you can express it well then people will definitely connect with it. Writing not only improves one's vocabulary but also helps to develop a rational thought process. So the next time you come across a random thought while sitting in the lecture theatre trying to make sense of what the professor is saying, going on a trip with your friends with earphones plugged in or simply lying down staring at the roof and waiting to fall asleep, write it down my friend at that very moment before it slips off.

I am sure you will definitely feel light hearted. Make your college life the most happening phase by cherishing all the moments that make your time here memorable.

Happy writing! 🚀

Heart Breaks, Love Awakes

Aitik Gupta
IMT-2018

I used to think
That Heart-Breaks are not poetic.
That they are full of sad songs,
Sad eyes and skipped meals,
Or strangers you spend nights with,
Just to forget a certain face.
Or be drunk enough,
To see that face everywhere.
I used to think,
That Heart-Breaks are about
Ignored text messages,
And false assurances you give,
Trying to convince your bestfriend,
That you are okay,

That your eyes,
Are not swollen red because of tears,
But instead 'something' got into them.
I used to think,
That Heart-Breaks are so painful,
That it hurts to breathe,
Because every breath utters your name,
That sleep only comes,
When I gaze at your face.
I have tucked safely under my pillow,
A bubble of dream I was striving in,
But then it finally broke,
And I still loved you,
A little more,
Than I did before.

Create your 1st gem in ruby

Shivam Sinha
IPG-2014

In the words of the official documentation, Ruby is a dynamic, open source programming language with a focus on simplicity and productivity. Ruby is super easy to read (syntactically) and write. It is super flexible. There are many DSLs (RSpec, Thor, Cucumber…) that tweak the syntax to be more fitting for a particular task or purpose. This can be super confusing at first but gets easier and more useful as you use it. Ruby is modular (very similar to Python in this way). External libraries are called "Gems" and there's a zillion of them. Maybe two zillion. Most tasks that you would want to do can be handled by a third party Gem - just include the Gem and start using it! In the coming paragraphs you will get a brief idea of the sparkling language.

RubyGems

RubyGems are package manager which are used to install various gems(libraries) to your system. Just like we use pip in python.
Let's Begin

File Structure:

```
▼ my_gem/
  ▼ lib/
      my_gem.rb
    my_gem-0.0.1.gem
    my_gem.gemspec
```

GemSpec file

This file contains the specification of your gem that describes your gem.

```
Gem::Specification.new do |s|
  s.name = "my_gem"
  s.version = "0.0.1"
  s.date = "2018-09-28"
  s.summary = "My new gem"
  s.authors = ["Shivam"]
  s.files = ['lib/my_gem.rb']
  s.require_paths = ["lib"]
end
```

Here *s.name* describes the name of your gem. Similarly, version, date and summary are self-explanatory. Now, *s.authors* describes the author of gem, *s.files* lists all the files that are included in gem and *s.require_paths* specifies the directory that contains the Ruby files that should be loaded with the gem.

Steps to create gem file:

Open your terminal and enter these commands:

```
mkdir my_gem
cd my_gem
mkdir lib
```

Create the Gemspec file:

```
vi my_gem.gemspec
```

and copy the above code. Add files to your library:

```
cd lib
vi my_gem.rb
```

Copy the code below in your my_gem.rb file.

```
module MyGem
class Calculator
def self.add(a,b)
puts (a+b)
end
end
end
```

The root file inside "lib" will usually match the name of the gem.

Generate the Gem File:

Now we generate the gem file so that we can use this code in other ruby program.
Run this command on your terminal to generate gem file.

```
gem build my_gem.gemspec
```

Installation of My Gem:

Now we have our gem file, we can use RubyGems to install gem on our system.

```
gem install my_gem
```

Add this Gem File to another Ruby File:
Create a file.

```
vi addition.rb
```

Copy the code below in your addition.rb file.

```
require 'my_gem'
MyGem::Calculator.add(4,5)
```

Run addition.rb:

```
ruby addition.rb
```

You can see the following output: 9
And you just made your first program in Ruby.
Startup businesses are a huge thing, and there's plenty of opportunity as a Ruby developer. It is the 4th most demanded programming skill on AngelList.
With the rise of Node.js, Ruby on Rails' popularity has diminished somewhat, but thanks to the ease of prototyping with Ruby on Rails, tech startups continue to love it. So keep exploring, you never know which tech becomes the next buzz.
Happy Coding! 🚀

One day it just clicks

Palak Jain
IMG-2017

"Great spirits have always encountered violent opposition from mediocre minds" - Albert Einstein. Certainly marvelous words penned down by the genius inventor. But you people know what, Albert Einstein couldn't even speak till the age of four, couldn't write till age of seven and was expelled from school too. Society had accepted him as a mentally retarded child. He was mocked in the school for his consistently poor performance. And to all such peoples' wonder, that child won the Nobel Prize in Physics. Had he accepted himself the way society pictured him, we wouldn't have the Theory of Relativity by 1915.

'You are unfit for the work', 'You cannot do it', 'It' s way out of your league' are the most common words you will hear from the society surrounding you. The society of those lackluster people who themselves are not capable enough to bring a positive change but rather have big mouths to hinder the ones who wish to bring a transformation. Throughout your battle for success in life, you will meet many such people who will let you down, who will shatter the firm wall of your self faith, who will make you perceive you are fit for nothing and would try all possible ways to drift you apart from your steps of triumph. That would be the time for you to make the best choice for yourself to not to care about what other people say or think. If you can believe in yourself when no one else does, you will become a winner right there.

Life is very short, don't let others ruin your life or hamper your thinking. It is a common observation that people who think a lot about what others would think of them always remain unhappy. You have a complete copyright on your life and do not let anyone make you feel guilty for living it your way. It is for sure that one's life won't always be a piece of cake. You will face accusations, harsh words, criticisms. Such factors tend to weaken an individual. Rather try making them your strengths. Remember all such adverse situations and let them pierce your heart. That will make you even tougher than before. Strive each day with extra effort than the day before, set an example for yourself each day. I personally think that the thing you should worry about is your character and not your reputation, because your character defines you and your reputation is only what people think about you. The strongest factor for success is your endeavours and efforts and the talent to turn deaf ears to useless sayings. Let me relate you with another instance, from the life of Steven Spielberg. He has directed the blockbusters "ET" and "Jurassic Park". But to your amazement, the man was rejected from a prestigious film school. But he did not let himself encumbered by such an early rejection. He made himself renowned in the world by the very thing at which he was accused for not being good at. He didn't stop himself from the work that interested him. He answered back those people who had shut their doors on his face and had mocked him for his work.

So now is the time for you to set your priorities to what is important and what isn't. Learn to care less about what others think of you and be more concerned of what you think of yourself. Strive each day for better outcomes. Think of those bad times you have surpassed and smile because that is the moment for you to be truly proud of yourself and the person you have fought to become. Remember "kuch toh log kahege logon ka kaam hai kehna.." Uplift yourself from getting affected by what people say or think. There will always be those people who want to see you fail because they cannot succeed. 🚀

"To all the people out there judging, it doesn't define the one whom you judge, it defines you"

Connecting the dots: from IIITM to Google

Alok Sharma
IPG-2012

After passing from IIITM in 2017 I got the amazing opportunity to work in Google Pay as Software Engineer. In this article I will share my entire experience over the college years which helped me learn a lot . It has every thing right from the begining so you have to be a bit patient for this one.

When I joined IIITM in 2012 there was a decent competitive programming culture here. But, I never knew what awaited me for the next five years. During my first year, I worked very less in CP. As soon as I passed my first year, I entered the world of competitive programming. I was referred to start with SPOJ. I solved the famous "Life, The Universe and Everything" problem on that it as my first submission. It was only then I realized how these online judges want the exact input and output as specified. As soon as I successfully solved this problem, I was in total awe of the world of competitive programming. I continued with learning basic algorithms in competitive programming when I encountered a problem. I was doing good on SPOJ. But, I completely ignored regular contests on Codechef and CodeForces.

AASF PC was one of the most exciting platform for us during our third and fourth year and I stood first in almost seven-eight contests.

During this time, I was doing decent in live contests also. I was able to secure 22nd rank in Codechef Cook-Off and was Candidate Master in Codeforces. During this time, Google organised its APAC Codejam for internship and full-time software engineering roles. I stood 35th in the country and cleared the cut-off rank required for interview. At that time, my CV lacked good projects and internships, so I got rejected in HR screening round. Everything happens for a reason and this incident increased my cravings to join Google. Nowadays, folks are doing great internships in college and this is good as converting intern to a full-time offer is easier than a complete full-time interview. At the end of the fourth year I did an internship at a startup in Bangalore and it helped me in enhancing my web development skills.

Now, the placement season started and I was confident enough with the DS and Algorithm stuff, so I started brushing up my OS and DBMS concepts. I was able to clear interviews of Works Applications Singapore and Paytm-the first two companies that visited our campus. I decided to join WorksAp as it was an international offer and they were offering path-breaking paychecks. In early 2017, I also cleared interview for one of the most sought after company- Directi. Most of these interviews were focussing on DS, Algos and my projects.

After passing from the institute, some interesting stuff happened with the WorksAp offer. They changed the work location to Tokyo and due to their financial losses, they put some risky terms in their offer letter. I decided to decline that offer and started working for Paytm. Thereafter, I thought there is still some more left for me and just after ending my placement 1.0 season at institute, I jumped into placement 2.0 season. One fine day, I got a call from a Google recruiter regarding SWE role and I expressed my deep interest in that. Shortly, I was notified for interviews at the Google Bangalore office. Most of the part in the interviews focussed on programming, algorithms and data structures which were my strongest skills. Around 10 days later, I received a call and I had been offered a position of Software Engineer based in Hyderabad. It was a dream come true. It was simply the best thing that could have happened! I had 3 offers from companies like Flipkart, Uber and Google and I decided to go with the obvious choice, Google.

I want to walk you through my interview experience. Generally, there are 1-2 phone screening interviews and 4-5 onsite interviews for SWE role at Google. In my case, it was one telephonic round and after that

that I was called to Bangalore for 5 onsite interviews. There is one cool thing about these interviews they aren't just looking for how much "Geeksforgeeks" you have browsed but they compel you to think on your feet. I would rate the overall interview 3.5 out of 5 in terms of difficulty. It covered questions from topics like Map, Set, Heap, Recursion, Hashing and some basic designing and coding stuff. I used a lot of STL in my interview. Due to the signed NDA, I am not disclosing the exact questions but folks can look for Google interview experiences from Glassdoor and InterviewBit. Currently, I am enjoying my work and life at Google.

Friends, I would recommend you to always start with practising simple problems and dive deep into them. Apart from your knowledge, it is very important to have decent thinking and coding speed for interviews. For people who don't like CP during college, they can also hone their web development or ML skills and can get basic fundamentals of DS and Algo. Trust me, always follow your passion!

I strongly believe that the journey is far more rewarding than the goal. I learnt a lot during the entire journey.

Stay Hungry. Stay Foolish. 🚀

Alok Sharma (IPG-2012) is currently working as Software Engineer at Google.

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Mr. Siddharth Vaish (IMG-2017)

Invaluable efforts in designing the cover for Abhishar volume 8.0.

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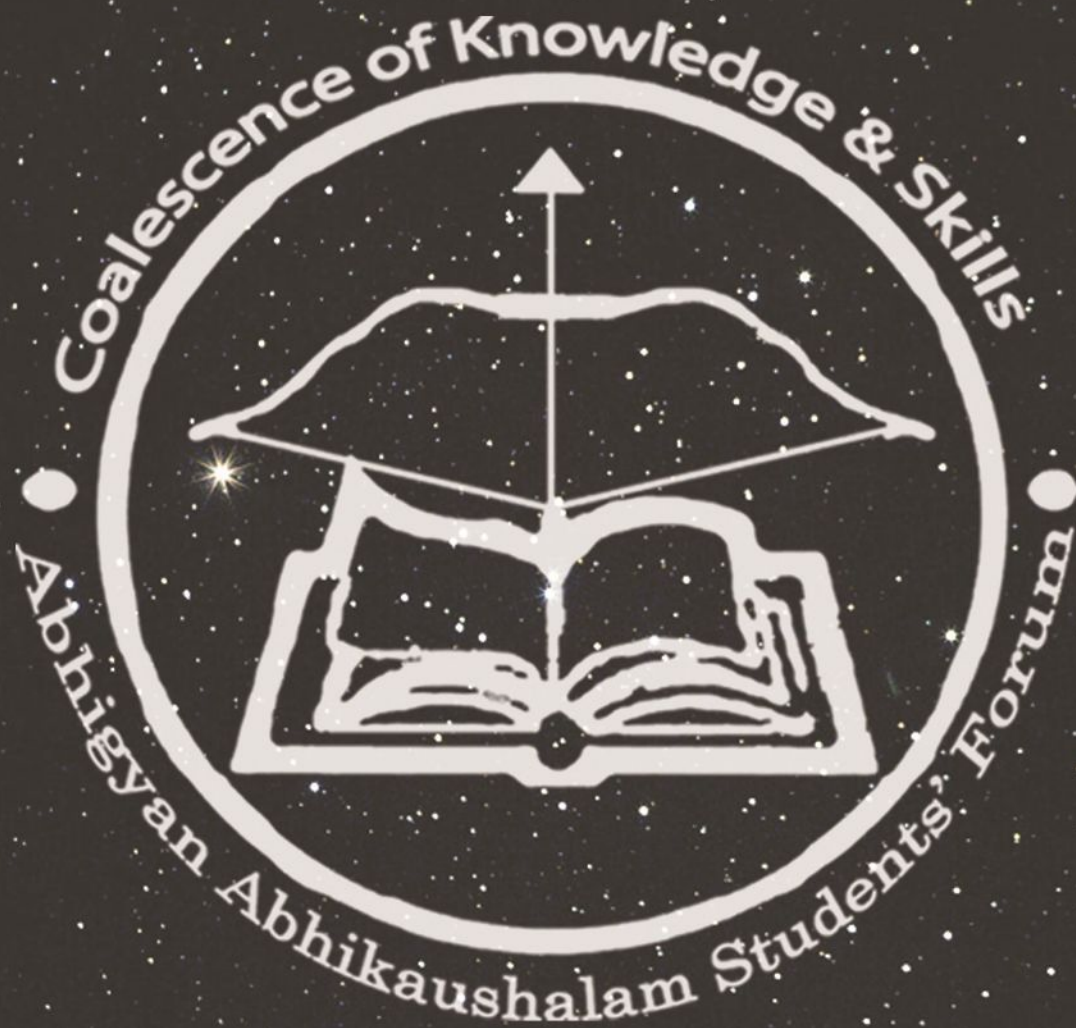Anjali Munjal
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