

IDENTITY



IT DEPARTMENT QUARTERLY MAGAZINE

SINCE INCEPTION ... OUR GROWTH TRAJECTORY

A. SHAHINA, PROFESSOR IT

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Our department was started in 1999, with 40 undergraduate students, pursuing their B. Tech degree. Today, there are (four batches of) 150 UG, (two batches of) 18 PG students, and 19 PhD research scholars. Since inception, the department has progressed in various aspects—be they pass percentage, research, obtaining Govt. sponsored projects, publications, or workshops/seminars conducted, among others. We have a faculty strength of 29 with four PhD holders and 16 pursuing PhD. The department has a total project grant worth 1.43 crores. The sponsoring agencies include DIT, DST and DRDO. The DIT project is on building a text-to-speech system, while



the DST and DRDO projects are in the field of nano-electronics. The department has 176 publications in journals and conferences from our faculty and students. Impetus is given to organize and attend research oriented technical

training programs. Our department has conducted 35 workshops/seminars, and 1 jointly organized international conference, and national conference. And, we continue to grow.

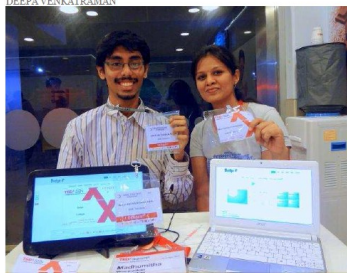
THE HINDU

Life & Style Metroplus

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Mission Badgelt accomplished

DEEPA VENKATRAMAN



Winners All The Way
Out of 250 odd entries, Karthik and Madhumitha's software product won the Google

IT STUDENTS WIN GOOGLE CONTEST 2012

A. SHAHINA, PROFESSOR IT

Our students, S. Karthik and V. Madhumitha, of the 2008-12 batch of the B. Tech program have recently won the Google Apps Developer challenge 2012. They have bested 262 contestants. 'The Hindu' newspaper carried an article on 07.12.2012 titled 'Mission

Badgelt' on their accomplishment.

Karthik and Madhumitha, just out of college, enjoy working for Detroit based BMK solutions. While in college, they helped put together events at the Entrepreneurship cell, like TEDxSSN and 32 HourStartup

They decided to develop Badgelt, a HTML5 and Javascript web application that makes badges for conferences, integrated with Google Drive. They recall "we won the challenge ..."

(contd. on page 2)

OUR STUDENTS WIN...(CONTD. FROM PAGE 1)

“the exposure and independence at SSN, specially at the IT department, took us places. And that feels, terrific, and grateful”

“...coming top in our category in the India region. This was a tremendous moment for the two of us, and what was even more better was, a lot of events used it to make badges for their attendees, starting from in50Hrs by the Startup Centre, Chennai, and why, in our own annual alumni meet, Tribute 2013. Recently, we built the Chennai Geeks website, using a Python web framework called Flask, leveraging the immensely informative discus-

sions from the Facebook group in interesting ways. We’ve also been running the Chennai Geeks monthly meetups and hackathons. It all feels great now, but I think it all traces back to the first 32 Hour Startup where we caught this passion towards writing code, open source software, and the hacker community. That, along with the Google Summer of Code internship we did in 3rd year of college, followed by presenting our work for the

Gnome Foundation at the Desktop Summit, Germany, nailed it. College is a lot of fun. But the tiny bit of work combined with the exposure and independence at SSN, specially at the IT department, took us places. And that feels, terrific, and grateful.” Apart from a whopping cash prize from Google, their application is available for free at the Google App Store.

The IT department congratulates and wishes them success.

RESEARCH AT IT

R. SRINIVASAN, PROFESSOR IT

The core strength of IT department is its faculty, which is 29 strong with four of them holding a PhD and almost all other faculty are pursuing PhD. With this profile, IT department serves as a bandwagon for research.

The IT department focuses mainly on the following areas.

1. Data mining
2. Embedded system designs
3. Image processing
4. Information theory
5. Networks and Information security
6. Ontology
7. Speech technology
8. VLSI/Nano electronics.

Each group is active in research activities, with faculty and students publishing their work in scholarly journals and conferences. Also, there is always an on-going effort in getting support for research through both internal and external funding agencies.

The speech group has established itself in research by setting up an excellent lab facility for research. This has been possible, thanks to the MCIT, Govt. of India, for the research grants, and the SSN management which has been instrumental in providing the space and support. The lab has been involved in the design and implementation of text to speech (TTS) systems for Indian languages which is a multi-crore project supported by MCIT, and is spread across the country. Also, with the funding support of SSN, a project on building speech systems using alternate speech sensors is carried out.

The Nanoelectronics group is one of the active groups, with research funding from DST and DRDO. Nanoelectronics group functions from the research lab at the IT department. With a research funding of more than 50 lakhs, the group has the facilities to do research in nano scale devices.

These facilities attract research scholars, graduate and undergraduate students to pursue research.

Active research is going on in all the groups. In image processing, a group of faculty are about to reach the finish line of PhD, and are actively involved in the cutting edge issues. A research proposal is submitted to DST for research support.

The students at the IT department have proved themselves that they can also write proposals, and receive grants. Thanks to the SSN management for the internal funding to support their B.Tech. project. The project aims at designing a rendezvous system for tracking a mobile target. More about the project will be available in the next issue of IDENTITY.

I believe in innovation and that the way you get innovation is you fund research and you learn the basic facts

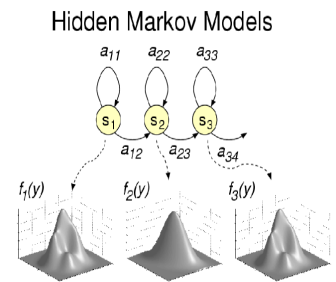
- Bill Gates



WORKSHOPS CONDUCTED BY IT DEPARTMENT

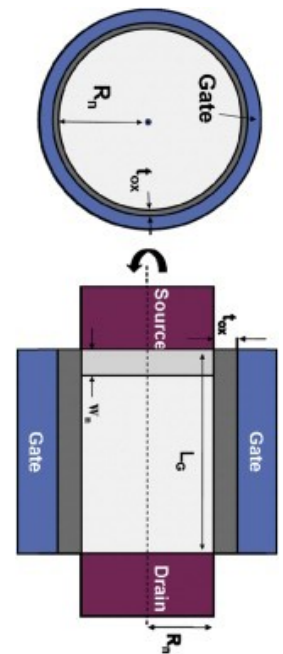
HMM BASED SPEECH SYNTHESIS SYSTEM

HMM based Speech Synthesis System was organized by Dr. T. Nagarajan (Prof & Head/IT), Dr. P. Vijayalakshmi, (Prof/ECE) and their project staff (DIT, MCIT project) in the Department of IT from 26.11.2012 to 30.11.2012. Around 40 participants from the following institutions attended the workshop: IIT Madras, IIT Kharagpur, IIT Mandi, IIT Guwahati, IISc Bangalore, CDAC Mumbai, CDAC Trivandrum, CDAC Calcutta, IIIT Hyderabad, University of Gauhati, DA-IICT Gujarat.



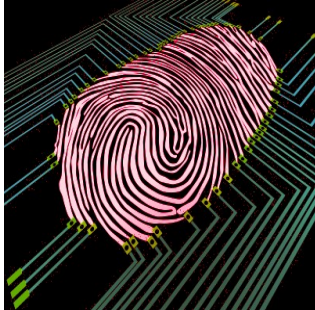
INTRODUCTION TO TCAD AND APPLICATIONS

A workshop on “**Introduction to TCAD and Applications**” was organized by Dr. R. Srinivasan (Prof/IT) and his research students (Mr. K. K. Nagarajan and Mr. V. N. Ramakrishnan) in the IT Department from 17.08.2012 to 18.08.2012. This workshop aims to demonstrate the usage of TCAD in device modeling. The workshop utilized the facilities in the research lab, which in turn was supported by the research funding from DST and DRDO. Around 30 participants, who are research scholars or faculty working in devices/nanoelectronics, attended the workshop. A hands on training in TCAD was also provided to all the participants.



GUEST LECTURES ORGANIZED BY IT DEPARTMENT

COMPUTER FORENSICS AND INVESTIGATIONS



Title: **Computer Forensics and Investigations**

Speaker: Krishnakmar Venkatanarayanan

Lead Analyst, CSC, Chennai.

Date: 21st September 2012 (10.30 AM to 12.00 PM)

Venue: IT department Seminar Hall (Ground floor)

About the talk: A guest lecture on “Computer Forensics & Investigations” was organized for the PG students and IV year UG students of IT Department. In

the lecture, Mr. Krishna Kumar Venkatanarayanan, emphasized the need for information security, and the current technologies related to computer forensics. The event was coordinated by Ms. Swathika R (AP/IT) and Mr. A Sandanakaruppan(AP/IT).

WEB SERVICES

Title: **Web Services**

Speaker: SriKrishna Prakash

Senior Tech. Leader, Calsoftlabs, Chennai.

Date: 22nd February 2013 (10.30 AM to 12.00 PM)

Venue: IT department Seminar Hall (Ground floor)

About the talk: Web Services is considered to an important wave of technology to fuel electronic business, application integration, and business-to business (B2B) interactions. At the same time, distributed parallel computing is becoming the de facto architecture for managing the performance of computationally

intensive, long-running programs. This guest lecture looks at how the Web services scenario is unfolding in the distributed parallel computing space. Its main focus was on the importance of web services, and the need for messaging protocols - SOAP and SOAP with HTTP. Importance of standard interface-WSDL was briefed. Finally the whole scenario was explained with a demo on creating sample Web service with both Producer and Consumer.

“how the Web services scenario is unfolding in the distributed parallel computing space”

DIGITAL IMAGE PROCESSING—FRONTIERS & FUTURE



Title: **Digital Image Processing—Frontiers & Future**

Speaker: Kumar Raja

Research Associate, Technicolor R&D, France

Date: 25th February 2013 (1.00 PM to 2.30 PM)

Venue: IT department Seminar Hall (Ground floor)

About the talk: Though Digital Image Processing dates back to early 1920's many of the problems re-

main unsolved even to this day. Examples include the following: to detect whether an image is artificial or real, to detect/isolate certain features in an image, etc. Also, the talk focused on action recognition from still images making use of concepts from machine learning. The use of Kinect in the 3D modeling of data is described. On the whole, the talk made us walk through the past and the present trends in image processing.

PUBLICATIONS OF FACULTY AT IT

B.Bharathi, C.Arunkumar, and T. Nagarajan (Prof/IT), "Improving the performance of Speaker and Language identification task using unique characteristics of a class," *International Journal of Speech Technology*, Jun. 2012.

V. Thanikachalam (AP/IT), "Human Action Recognition using Accumulated Motion and Gradient of Motion from Video," *Third International Conference on "Computing, Communication & Networking Technologies," SNS College of Engineering, Coimbatore*, Jul. 2012.

B.Lakshmi and R. Srinivasan (Prof/IT), "Investigation of F_T and non quasi static delay in conventional & junctionless multigate transistors using TCAD simulations," *ARNP Journal of Engineering & Applied Sciences* Vol.7, No.7, Jul. 2012.

Raja. Sudha, I. Joe Louis Paul (AP/IT), "Performance Analysis of LTE for QoS Enhancement in Mixed Traffic Scenarios", *Intl. Conf. on Computational Intelligence and Communication (ICCI-2012)*, ISBN 978-81-909948-4-2, pp. 563-567, Jul. 2012 (won the Best Paper Award at SKR Engineering College, Chennai).

Chithra Selvaraj (AP/IT) and Sheila Anand, "A Survey on Security Issues of Reputation Management Systems for Peer-to-Peer Networks", *Computer Science Review*, Vol. 6(4), 2012, pp. 145-160.

G. R. Bharath Ram, R. Jayakumar, R. Narayan, A. Shahina (Prof/IT) and A. Nayeemulla Khan, "An Efficient Voice Enabled Web Content Retrieval System for Limited Vocabulary", *Wireless Networks and Computational Intelligence, Springer Communications in Computer and Information Science Series*, 2012, Vol. 292, Part 3, pp. 390-398, DOI: 10.1007/978-3-642-31686-9_45.

Sree Sharmila T (AP/IT), Ramar K and Vidhusha S, "Change Detection of Water-Body in Synthetic Aperture Radar Images", *Intl. Journal of Image Processing*, Vol. 6, Issue. 4, pp. 233-242, 2012.

Sree Sharmila T (AP/IT) and Ramar K, "Comparative and Efficient Analysis of Gradient Based Edge Detection Technique in Medical Images", *Intl. Journal of Computational Engineering Research*, pp. 167-170, ISSN: 2250-3005.

P. Vasuki (AP/IT) and Dr C. Aravindan (Prof/CSE), "Improving Emotion Recognition from Speech using Sensor Fusion Techniques," *IEEE 2010 Region 10 Conference –TENCON 2012*, Nov. 2012.

R. Vinob Chander (AP/IT) , Preethi Rajasekaran, and Ragavi Pala Janardhan. "A Smarter Toll Gate Based on Web Of Things," *2013 IEEE Intl. Conf. on Electronics, Computing and Communication Technologies (IEEE CONECCT)*, IEEE Bangalore Section World Trade Center, Bangalore, India. 17-19 Jan. 2013.

S. Poornima (AP/IT), "Performance Study of Fusion in Multimodal Biometric Verification using Ear and Iris Features," *International conference on Research Trends in Computer Technologies ICRTCT – 2013*, Coimbatore, Jan. 2013.

Sree Sharmila Thangaswamy (AP/IT), Ramar Kadarkarai, and Sree Renga Raja Thangaswamy, "Developing an efficient technique for satellite image denoising and resolution enhancement for improving classification accuracy", *Journal of Electronic Imaging*, Volume. 22, Issue.1, Jan. 2013, doi:10.1117/1.JEI.22.1.013013 (Impact Factor: 0.694) .

PROJECT PROPOSALS SUBMITTED BY FACULTY AT IT

Dr. A. Shahina (Prof/IT), Mr. V. Sivamurugan (Asso. Prof/IT), and Mr. I. Joe Louis Paul (AP/IT), submitted a proposal to All India Council for Technical Education (AICTE), New Delhi on 31.08.2012 for conducting a Faculty Development Programme on “Multimedia Compression and Coding Techniques” during June 2013.

A student project proposal has been submitted to the Tamilnadu State Council for Science and Technology (TNSCST), Chennai under the Student Project Scheme (SPS) by the guidance of Mr. I. Joe Louis Paul (AP/IT) on 31.08.2012. Classification of Usefulness in Public Comments: e-Rule Making using Machine Learning Algorithms for Indian Regulatory Agencies by Rajkumar D and Vijay Nigesh V.L, IV Year IT.

TALKS/GUEST LECTURES BY FACULTY AT IT

Dr. K. Premkumar, Associate Prof/IT gave a talk on “Proportional Fair Allocation of Airtimes and Packet Lengths in Wireless Mesh Networks” in the Department Research Seminar on 21.07.2012.

Ms. T. Sree Sharmila, (AP/IT), presented a guest lecture on “Rendering” (Computer Graphics) at KCG college of Engineering, Chennai on 14.09.2012.

Dr. K. Premkumar (Assoc. P/IT) delivered a special lecture entitled “Sequential Change Detection Problems with Applications in Event Detection in Sensor Networks” organized by the ISTE chapter of SSN College of Engineering on 13.10.2012.

Freedom from the desire for an answer is essential to the understanding of a problem.
- Jiddu Krishnamurti

If we can really understand the problem, the answer will come out of it, because the answer is not separate from the problem.
- Jiddu Krishnamurti

The end is the beginning of all things, suppressed and hidden, awaiting to be released through the rhythm of pain and pleasure.
- Jiddu Krishnamurti

SDPs ORGANIZED BY FACULTY AT IT

A One-Day Hands on Training in “MIDLlet Programming with J2ME” was organized and coordinated by Mr. I. Joe Louis Paul and Ms. E. M. Malathy (APs/IT) on 06.07.2012.. Mr. Subhash EP, Founder & Head of Technical Training at TechV, Chennai delivered a lecture to an audience of 39 participants.

OTHER RESEARCH ACTIVITIES OF FACULTY AT IT

Dr. T. Nagarajan (Prof & Head/IT) participated in a one day Project Review and Steering Group meeting of the TTS (Text to Speech) Consortium as part of the DIT-MCIT sponsored project titled “Development of Text to Speech System in Indian Languages” on 18.06.2012.

Four Students from the Department of Information Technology and three students from the Department of Electronics and Communication Engineering participated in the Summer Internship program of the DIT-MCIT project titled “Development of Text to Speech System in Indian Languages” between 02.06.2012 and 30.06.2012. in IT Dept. They contributed significantly towards the development of TTS systems. The program was organized by Dr.T.Nagarajan (Prof& Head/IT) and Dr. P. Vijayalakshmi (Prof/ ECE).

Ms. P. Vasuki (AP/IT), Mr. V. Thanikachalam (AP/IT) & Ms. N. Sripriya (AP/IT) attended the AICTE sponsored Staff Development Programme (SDP) on “Machine Learning & Pattern Recognition” conducted by Department of Computer Science of Engineering, SSNCE from 2.7.2012 to 7.7.2012.

Mr. R. Vinob Chandar (AP/IT) attended a workshop on “6LoWApp - Building IPv6 enabled wireless sensor networks applications” jointly organized by ERNET India, Bangalore and ECE Dept., IISc held at IISc, Bangalore on 20.10.2012.

Ms. S. Mohanavalli AP/IT and Ms. R. Swathika AP/IT attended a Workshop during 18-20th January, 2013 on “Big Data Analytics” organized by the Department of Information Science and Technology, CEG, Anna University, Chennai.

Ms. S. Chitra AP/IT and Ms. T. Shanumgapiya AP/IT attended the ACM-W Event organized as a part of the ACM India Annual Event 2013 at IIT Madras during 24-25th January, 2013.

Ms. R. Swathika, AP/IT attended a seminar on 28th January, 2013 about Research issues in Data Mining conducted by Department of Computer Science and Engineering, Anna University, Chennai.

Ms. P. Vasuki, AP/IT and Ms. N. Sripriya, AP/IT participated in a workshop on Speech and Audio Processing Statistical Parametric Speech Synthesis (WISSAP-2013) at IITM, Chennai. between 22-25th February, 2013.

VIDYARAMBHAM (विद्यारम्भम्)

K. PREMKUMAR, ASSOCIATE PROFESSOR IT

"To know the road ahead, ask those coming back"
- Chinese proverb

In November 2010, on a sombre rainy day, my PhD advisor gave a pat on my back, and waved a green flag for submitting my thesis. This was the day, the monumental day I was looking for. But, there was no trumpet playing angels to grace the occasion.

"No trumpets sound when the important decisions of our life are made. Destiny is made known silently"
- Agnes DeMille

Truly, I was less happier than I was six years ago. Is it because I had to leave a paradise in India, or because *I lost my innocence*. Where is the usual me that gets completely melted in the blink of an eye of the innocence around me? My mind was bloated with many incomprehensible, inexplicable questions.

What is PhD after all. PhD is not just a degree course which is evaluated based on the number of publications; it is more than the sum of all its parts. Well, PhD is a phenomenon that brings in a metamorphic change in our thoughts, actions etc.

The first and foremost question that one should ask him/her-self about getting a PhD is "why do I go for a PhD?" The answer to this question must be buried in the deep abyss of our hearts, and could only be expressed in emotions rather than in words, just like a new born baby who indicates his/her hunger not by words. If you feel a voidness in your soul (which is as pure as a baby), and the voidness suppresses you to an extent that you feel you do not exist, then go for a PhD. But, what ever may be the reason, if you pursue a PhD, just think that PhD itself is another soul to which you are binding with, and the onus is on our part to make the other soul feel good.

Now that you have the holy grail of reasons to do a PhD. The next question is ... does there exist a manual for PhD? If so, what would be the contents of the manual. The answers to both the questions lie in front of each student, but in a different form and name! The manual is student-specific which is his/her PhD supervisor, and the way to browse through the manual is also student-specific. Some manuals are written in a lucid manner, whereas some are not.

"PhD is a phenomenon that brings in a metamorphic change in our thoughts, actions, etc."



To understand what it means to guide a student, the following dialogue between Master Oogway and Master Shifu in the movie Kung Fu Panda, 2008 is worth mentioning (reference: <http://www.imdb.com/character/ch0085860/quotes>).

Oogway: My friend, the panda will never fulfill his destiny, nor you yours until you let go of the illusion of control.
Shifu: Illusion?
Oogway: Yes.
[points at peach tree]
Oogway: Look at this tree, Shifu: I cannot make it blossom when it suits me nor make it bear fruit before its time.
Shifu: But there are things we *can* control: I can control when the fruit will fall, I can control where to plant the seed: that is no illusion, Master!
Oogway: Ah, yes. But no matter what you do, that seed will grow to be a peach tree. You may wish for an apple or an orange, but you will get a peach.
Shifu: But a peach cannot defeat Tai Lung!
Oogway: May be it can, if you are willing to guide, to nurture it, to believe in it.
Shifu: But how? How? I need your help, master.
Oogway: No, you just need to believe. Promise me, Shifu, promise me you will believe.

In some cases, the bare reality is that the student is a lonely traveller, and his/her advisor joins with him/her only in the graduation ceremony. I wish all the students and their advisors remember the following lines (from the Kato Upanishad) in course of their journey

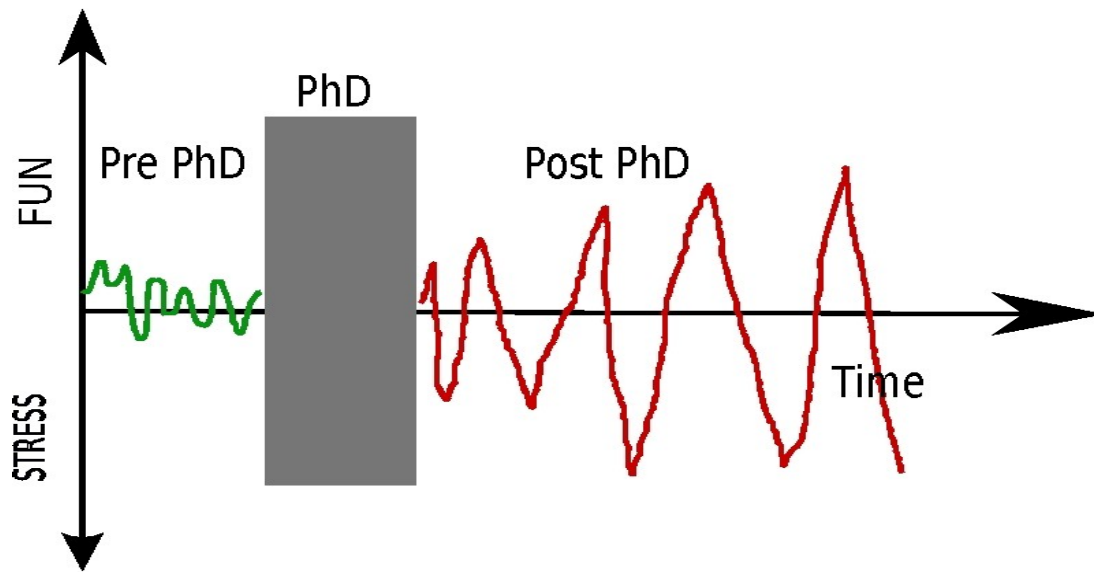
ॐ सह नावतु ।
सह नौ भुनक्तु ।
सह वीर्यं करवावहै ।
तेजस्वि नावधीतमस्तु मा विद्विषावहै ।
ॐ शान्तिः शान्तिः शान्तिः ॥

Om Saha Nau-Avatu |
Saha Nau Bhunaktu |
Saha Viiryam Karava-Avahai |
Tejasvi Nau-Adhii-Tam-Astu Maa Vidviss-Aavahai |
Om Shaantih Shaantih Shaantih | |

Meaning:

- 1: Om, may God protect us both (the teacher and the student),
- 2: May God nourish us both,
- 3: May we work together with energy and vigour,
- 4: May our study be enlightening, not giving rise to hostility,
- 5: Om, peace, peace, peace.

VIDYARAMBHAM (CONTD. FROM PAGE 8)



A PhD student (or an academician, or rather anyone), who travels in search of truth, should use his/her eyes to “see” and ears to “hear.” In the language of Freud, (s)he who uses eyes and ears can learn the truth (no matter how much elusive it is)! So, for anyone, *being honest is a simple trait that keeps one's heart beat under control.*

Also, as Sigmund Freud puts it, “*Love and Work are the cornerstones of our humanness.*” My take on this is that there are two sets of humans, one in which people dangle between love and work, and in the other, love and work are inseparable. But, “it is only when there is love that all our problems can be solved, and then we shall know its bliss and its happiness (from *The first and last freedom* by Jiddu Krishnamurti). I am really pledging for excuse from J. K. as I have contrived his statement in a totally different context!

Finally, we arrive at a point where there would be no trumpets and no angels, but a 200 page dissertation. The child within us which keeps us moving with innocence slowly faded away. Of course, one can not be both innocent and rational. The greatest gift of the almighty to mankind, the innocence, which the mind and heart accept and enjoy, has been relinquished in the last mile of getting a PhD.

And I asked myself, why did you do this to me. I heard my soul reciting the lines:

*Two roads diverged in a wood, and I -
I took the one less traveled by,
And that has made all the difference.
- Robert Frost, The Road Not Taken.*

I said to my soul, “yes, one often meets his destiny on the road he takes to avoid it” (Jean de la Fontaine; also, Master Oogway to Master Shifu in *Kung Fu Panda*, 2008).

Oh, how I wish I were a child again

Any comments about the article may please be sent to PremkumarK@ssn.edu.in.

*Your time is limited, so don't waste it living someone else's life. Don't be trapped by dogma - which is living with the results of other people's thinking. Don't let the noise of others' opinions drown out your own inner voice. And most important, have the courage to follow your heart and intuition.
- Steve Jobs*

“(s)he who uses eyes to see and ears to hear can learn the truth (no matter how much elusive it is)!”

IT'S A KALEIDOSCOPIC WORLD (PERSPECTIVES OF IT)

K.PREMKUMAR, ASSOC. PROFESSOR, R. SRINIVASAN, PROFESSOR IT

Parents (of B.Tech. Students): Life becomes a cake walk after B.Tech. IT. Lots of on-campus job offers with a fat paycheck! However, the number of job offers is less compared to a Computer Science graduate. Anyway, sooner or later, my ward will be a pan-American! I can brag about my kid with my friends. I will visit Disneyland and Las Vegas during my daughter's (or daughter-in-law's) delivery.

Fresher B.Tech. Student: My first preference is Computer Science. Alas! I could get only the second preference. But, it is OK. I can let loose (read: freak out) myself more. After 4 years, I will be at Cupertino, working for a futuristic technology company, and have my week-ends at Hawaii, Las Vegas, Cancun, Virgin Islands, Bermudas, and Bahamas! Also, life is calling me with Spanish girlfriend, French cuisine, Greek public house, Italian out fit, etc.

Final year B.Tech. Student: Well, there is something in Information Technology. I was bitten by bug bunnies of Communications, Cryptography,

Data analytics, Networks, Signal Processing, Software, etc. May be, in other programmes, there are not as much potpourri of things as in IT. I think, I would hit at the gates of Berkeley, IIT/IISc, or MIT for a Masters/PhD programme!

Recruiters/Corporate world: I-Techies could be hired for Applications software, Biological systems modeling, Communications software, Device modeling, Systems software, and what not! Information Technologists are software puritans, who can achieve less bugs per KLOC. (S)He is the future!

Academicians : Some may think, IT is a conglomeration of some degree programs. For some, IT means programming principles, languages, and tools. In general, IT would refer to all of computing, with an eye on the technology needs of business, government, healthcare, schools, telecom, and other kinds of organizations.

So, "what is IT?" ... Watch out for this in the next edition of IDENTITY.

I was bitten by bug bunnies of Communications, Cryptography, Data analytics, Networks, Signal Processing, Software, etc. May be, in other programmes, there are not as much potpourri of things as in IT.

NEWTON'S THREE LAWS OF GRADUATION

(REFERENCE: [HTTP://WWW.ANDREW.CMU.EDU/USER/MINHHOAN/NEWTONLAWSOFGRADUATION.HTM](http://www.andrew.cmu.edu/user/minhhoan/newtonlawsOfGraduation.htm))

First Law:

A graduate student in procrastination tends to stay in procrastination unless an external force is applied to it.

Second Law:

The age, a , of a doctoral process is directly proportional to the flexibility, F , given by the advisor and inversely proportional to the student's motivation, m .

Mathematically, the second law translates to

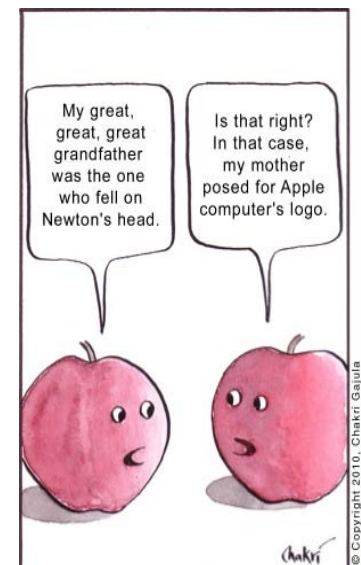
$$age = flexibility / motivation$$

$$a = F/m$$

$$\text{Therefore, } F = ma$$

Third Law:

For every action towards graduation, there is an equal and opposite distraction.



ACADEMIC HERD

ROSHNI MURALI, III YEAR IT-B

Does GPA reflect how good an engineer you are or just how good you are at memorising terms?

As the light from my laptop screen illuminated my face, giving it an eerie glow in the dim room, my fingers worked away furiously with vigorous speed and certainty at the keys as I typed out the answers for the questions on my application form for the Thoughtworks Fellowship. It meant a great deal to get chosen, as only a select few are chosen for this fellowship.

After answering the first few questions easily without thought, I scrolled to the next question which seemed to slap me in my face — “Have you applied any of your subjects in real life? If so, please tell us in less than or in 100 words.”

The laptop seemed to be waiting for me with its unblinking screen, eagerly expecting an answer. My fingers wandered restlessly above the keys. At that moment, I realised the actual reason I had applied for the fellowship — I had absolutely no practical knowledge or hands on experience. I had been taught to define terms with precise keywords, follow the mark scoring pattern of answering to get an outstanding grade, to underline points, to use different coloured inks to present an attractive paper and to never deviate from the prescribed syllabus — all in the pursuit of a superficial GPA. But does this GPA project my

application skills or how well I can use my knowledge in real time? No.

It does not say anything about my logical reasoning, intelligence quotient or how good an engineer I am. It merely projects my amazing memory capacity, and how well I can present a neat, well formatted paper and comment on my penmanship. There is no thinking out of the box.

Bottomline: Students are merely a domestic, trained herd, with blinkers on that narrow their vision to the road immediately ahead of them and making them oblivious to their surroundings.

CONVERTITA, THE IT EXTRAVAGANZA

P. VASUKI, ASST. PROF IT



Inaugurating Converita 2012

The Association of Information Technologists was formally inaugurated for this year on 6th August, 2012 by Mr. Senthil Ayyappan – Associate Director, Cognizant Testing Services. He addressed the gathering on how to prepare themselves to face the current trends in industry. On 30th August, 2012, Converita, the annual technical

Symposium was inaugurated at the Central Auditorium by Ms. Sadhana Somasekhar, Joint Managing Director, Future Focus Infotech. She delivered a thought provoking key note address on pathways to choose in realizing each individual’s goal/s. Converita, an annual crowd puller, attracted 3500 participants from across various

colleges. They conducted events such as paper presentation, debugging, online programming contest, online quiz, query master, tech mixture, quiz, web craft and web designing, and also conducted a workshop on Game Development. St Joseph was selected as the “Best College.



From top left, clockwise : the surging crowd of participants, various events in progress—web designing, quiz and workshop.

INTANGIBLES IN A WORLD OF TANGIBLES

PROF. S. P. ARUN, IISC BANGALORE
 REPRINT (WITH PERMISSION) FROM VOICES, AN IISC NEWSLETTER

----- Original Message -----

From : Deepak Sharma <cutelildeepak4u@gmail.com>
 To : Prof. Palayanteeshwaran <pally@cipn.iisc.ernet.in>
 Subject : hello
 Date : Mon, January 2, 2012, 10:35am

Pally Sir! I m bak 4m my vacation n wud like 2 meet u for my courses. 2day is d last day. Pls lemme know when I cud meet wid u. btw I got A in nanb, B in manstat and C in physb. Pls advise.

----- Original Message -----

From : Prof. Palayanteeshwaran <pally@cipn.iisc.ernet.in>
 To : Deepak Sharma <cutelildeepak4u@gmail.com>
 Subject : Re: hello
 Date : Mon, January 2, 2012, 10:45am

Dear Deepak,

There are so many things wrong here that my anguish could not tolerate being expressed in prose, so it immediately accessed the poetry area in my brain (which, my friend sparun tells me, is next to the conflict and error monitoring area, the anterior cingulate cortex. He also says I have a really large ACC which is clearly a backhanded compliment coming from a neuroscientist). How do I mentor thee? Let me count the ways.

The longest letter you've ever composed, let me guess.
 Must have expressed your love in an incomprehensible sms.
 I mentor thee to write, so when you go out of the IISc whirlpool.
 Your sentences will be grammatical and their content cool.
 I mentor thee to write, so I can read your thesis.
 Without flying into a rage and tearing it up into pieces.

Second, I said, take courses but don't drop dead
 But your grades remind me of the alphabet instead.
 (What if you had taken four courses instead: ABCD?) .
 I mentor thee to stop with the swagger.
 Otherwise IISc will cut you up with a dagger.

Third, I mentor thee to notice hypocrisy
 On one hand, you want endless postponement
 Of deadlines for every assignment,
 But you give me only one day to decide on your courses, you idiot!!
 In case you are wondering why this para doesn't rhyme,
 Dude, this is IISc and professors can do whatever they goddamn want.

Actually in case you are wondering, that last part is not true. I can only write whatever I want in Voices, which is partly because hardly anybody reads it. But everytime you think you're senior enough to do what you want, you'll find an even higher-up making you do their dirty work for you.

But I digress. I hope you get the message.

Regards
 Pally

**“Pally Sir! ...when I
 cud meet wid u...”**

**“Dear Deepak,
 ...my anguish
 could not tolerate
 being expressed in
 prose...”**

**“Pally Sir! ...4give
 me for any mistek
 I hv done “**

 INTANGIBLES IN A WORLD OF TANGIBLES (CONTD. FROM PAGE 12)

----- Original Message -----

From : Deepak Sharma <cutelildeepak4u@gmail.com>
 To : Prof. Palayanteeshwaran <pally@cipn.iisc.ernet.in>
 Subject : hello
 Date : Mon, January 2, 2011, 10:46am

Pally Sir! I saw ur mail sir but I cud not fnd an appt time in ur reply. Cud u pls lemme know a tym 2 meet u?

----- Original Message -----

From : Deepak Sharma <cutelildeepak4u@gmail.com>
 To : Prof. Palayanteeshwaran <pally@cipn.iisc.ernet.in>
 Subject : hello
 Date : Mon, January 2, 2011, 2:15pm

Pally Sir! I snt u a mail bt did not get a reply. I know u r in ur office coz shruti met wid u. only 3 hrs r left 4 me 2 submit course regn. Pls sir 4give me for any mistek I hv done. pls meet wid me 2day.

----- Original Message -----

From : Deepak Sharma <cutelildeepak4u@gmail.com>
 To : Prof. Palayanteeshwaran <pally@cipn.iisc.ernet.in>
 Subject : hello
 Date : Mon, January 2, 2011, 3:15pm

Dear Prof. Palayanteeswaran

I would like to meet you regarding my courses. If possible could you meet with me today so that I can submit my course registration on time?

I would also like to apologize to you for (1) giving you such a short deadline; (2) writing emails in bad English and (3) anything else I might have said or not said which led you to form a negative judgment about my character.

Thanking you ,

Sincerely,

Deepak

----- Original Message -----

From : Prof. Palayanteeshwaran <pally@cipn.iisc.ernet.in>
 To : Deepak Sharma <cutelildeepak4u@gmail.com>
 Subject : Re: hello
 Date : Mon, January 2, 2012, 3:16pm

Dear Deepak,

I am glad that you understood the error of your ways. Come see me at 3.30pm in my office.

I hope you understand this mode of instruction. This is a radical approach that we follow in India, which takes full advantage of our complex social brains. You see, we have a twisted reaction to authority in India - it's a colonial hangover. If I had just told you to write emails in normal English, you would never have listened since you would have achieved your objective (i.e. got your form signed) anyway. You would keep sending me garbage sms-style emails. Instead, if I keep you guessing for hours about why I am not replying to you but meeting everybody else, you will finally come up with the simplest explanation which is that I am upset with you about something. Since you have a deadline, your brain will work overtime to figure out why you upset me, and you will go back and actually read my previous email. Then you'll understand that you should always write emails in proper English, addressing me as "Sir" or "Prof. Palayanteeshwaran". Of course, in the past, most fresh students have only figured it out by asking their seniors, which is probably what you did also - in fact, the sudden improvement in your English can only be attributed to Shruti who not only typed out your email, but even inserted for good measure her usual line about forgiving both said and unsaid things.

In fact, one day you'll find that I don't reply to any of your emails, and then you will have even less clues to why I didn't reply, and your brain will slowly heat up to 40C by the time you figure out that it might have been because you did not do what you said you'll do but you had the audacity to remind me about what I said I'll do. Your senior Shruti is presently in this stage and I can assure you she is getting rigorous training since the last two weeks. She still hasn't figured it out, can you believe it?

I think you will agree that this is a much better way to train a student than to directly tell them things. My general approach in life is, why say words directly when you can show by actions indirectly. Don't actions speak louder than words? I sometimes find that my silence produces more activity and restlessness in my students than my words. Of course, it's another matter that most of the time they're trying to figure out why I am upset rather than spending time thinking about research - that way when I actually ask them to work on a particular research problem, they are too exhausted by the effort of second-guessing my emotions that they meekly agree to do whatever I say. Ultimately this is what I would like at my stage in life - people should just agree to do what I say - after all, what the hell did I work tirelessly all these years for? To have people disagree with me? Do you know, now I make new project assistants sign on bond paper saying that they will obey every order I give, otherwise they agree to be fired without notice. I even moved a motion in the IISc Senate to allow advisors to get this signed by their PhD students but that motion was unanimously defeated. Clearly this is because of politics against me.

INTANGIBLES IN A WORLD OF TANGIBLES (CONTD. FROM PAGE 13)

**“you’ll understand
that you should always
write emails in proper
English”**

**“people should just
agree to do what I say
– after all, what the
hell did I work
tirelessly all these
years for?”**

But this is the reason why labs abroad are so disorganized - professors don't control their students. True, they have good equipment but their students are too busy thinking on their own, wanting to do their own little project, arguing unnecessarily with their professors and so on. It makes lives miserable for the professors! That's why their faculty have such high divorce rates. The best way to do science would be to give students a rigorous training so that they follow orders, and get all their fancy equipment. Then see how our country will develop! I've rambled long enough. In fact, I have wasted the entire day checking my email continuously for the right email from you. See how much time you have made me waste and see how much dedi-

cation I have towards my students! I hope you will appreciate and understand this over time.

Pally--

Prof. Katrinivalakeshwarasrinivasahareramakrishna
Palayanteeswaran

Fellow of all 42 Royal Societies of Timbuktu
Recipient of Jnana Shri award, Mathikere Sports Academy
Former President, Indian National Science Academy
Co-president, National Indian Science Academy
Secretary, National Science Academy of India
Treasurer, Academy of National Indian Science
Member, Society of Physically Inspired Nanobiology
Professor and Founding Chairman,
Department of Chemically Inspired Physical Nanobiology
Indian Institute of Science, Bangalore 560012

From the TeamEditorial@IT:

We thank the cooperation and support from the faculty and students of the IT department, without whom this news letter would not have been possible.

We welcome suggestions, comments, and contributions to the IDENTITY. Your feedback can be sent to the editors:

A. Shahina (shahinaa@ssn.edu.in)
K. Premkumar (premkumar@ssn.edu.in)
R. Srinivasan (srinivasanr@ssn.edu.in)
S. Vidhusha (vidhushas@ssn.edu.in)

Student volunteers interested in working for the news letter may contact [one of] the editors.

The general articles published in this edition represent only the views of the authors, and not that of the department.

Sincerely yours
TeamEditorial@IT

AND THE WINNER IS ... :THE LAPTOP VERDICT

SIDDHARTH GIRIDHARAN, 1 YEAR IT-A

Laptops (or Notebook PC's as they are commercially known) are the hot topic in the college right now. Especially so, in the first year circles. Everybody is in a hurry to get a good branded laptop as soon as possible.

But buying a laptop is not an easy, hassle free task. One needs to look at a lot of models, from lots of brands before coming to a final decision. There is also the added responsibility of choosing models that suit your needs and not overindulging in those that offer a host of features you don't have any use for. In short, there is a problem of plenty in the modern laptop market.

This write-up aims at providing potential buyers with a clear-cut view of what they need to be looking for in their laptop of choice. Hope you find it informative!

The following notebook PC's are the best buys in the market:- The HP Pavilion g6 and g7, the Dell Inspiron 14z and 15R and the Lenovo G570.

Hewlett-Packard rules the market nowadays. HP laptops best combine performance with reliability. They come loaded with advanced software and multimedia packages plus an amazing battery. Besides this the HP's have a host of other features like the Simple Pass technology, which scans fingerprints and allows users to log into their accounts by simply swiping their fingers over the sensor; the Cool-Sense technology which keeps the laptop from heating excessively even while playing heavy-duty

games and the HP Support Assistant which auto-upgrades software components on your laptop. The g6t2000 is a trendy model that gets the job done in quick time while the g7z2100 is a marquee model that holds all the best that HP has to offer.

But when it comes to hardcore application oriented laptops, the Dells shall serve one better. Dells can finish complex tasks in quick time without breaking a sweat. Programming for students becomes easier when they have a Dell. The 14z is a base model and should be ample to get your outputs and projects ready. The 15R is a thoroughbred-designed to raze through tasks. The optional switch-lids for the laptops is a nice touch from Dell. Though they don't compare to the HP in terms of an all-round package, when it comes to finishing jobs quick-time the Dells are hard to beat.

The Lenovo G570 is an inexpensive option that should be just about enough for your everyday tasks. That said it is still miles away compared to the HPs or the Dells.

Now let us get down to the technical specifications. The Operating System is the same standard Windows 7 Home Premium on all the models with an optional change-over to the Professional version on demand. Moving onto the processors, all the models work on an Intel second generation i5 processor. However HP offers the choice of an AMD processor on its marquee g7 model. In today's multimedia crazy sce-

nario, graphic processors are given a lot of attention. While all the models have the standard Intel 4000@HD graphic processors, HP surges ahead by offering an additional AMD graphic processor on its models. The screen width is a pretty standard 15.6" except for the Dell 14z at a rather small 14" and the HP g7 at a super-large 17.3". And then of course there is the storage factor. RAM is pretty standard at 4 GB on all the models, except for Dell 15R at 6 GB. The hard-drive too is larger on the 15R at 750 GB, as compared to 500 GB on the other models. Battery life is best on the HPs, with both the models able to make 4.5 hours on a single charge, while the battery life is a good 3.5 hours on the Dells and the Lenovo.

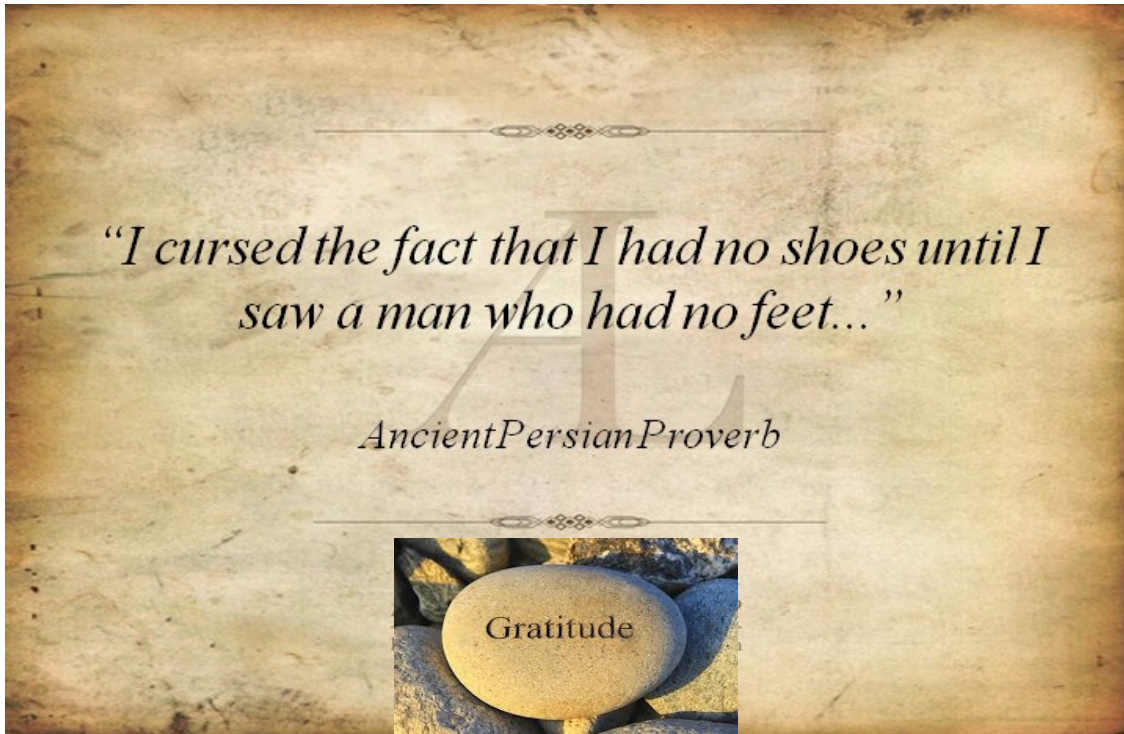
Finally we get down to the pricing. Coupled with VAT and other hidden costs, the HPs are the hardest on the purse. The market price of the HP g6 and g7 comes to around Rs.30970.

Next on the price scale is the Dell 15R at Rs.29300. The Lenovo is rather less at around Rs.27000. But guess what, it is the 14z that is priced the least at Rs.26600. So if you're looking for good value for money then the Dell 14z should be top on your priority list. Choose the Dell 15R if you are an avid programmer. If you need an inexpensive yet effective option go for the Lenovo. But if it is an all-round package that you're looking for, then the HP g6 or g7 should be the right choice for you.



There is the added responsibility of choosing models that suit your needs and not overindulging in those that offer a host of features you don't have any use

PAUSE & PONDER



The only way out of the labyrinth of suffering is to forgive.

- John Green, Looking for Alaska

The true measure of a man is how he treats someone who can do him absolutely no good.

- Ann Landers



Department of Information Technology
SSN College of Engineering
Rajiv Gandhi Salai, OMR
Kalavakkam, Chennai 603 110

Editors

Dr. A. Shahina, Professor, IT
Dr. K. Premkumar, Associate Professor, IT
Dr R. Srinivasan, Professor, IT
Ms. S. Vidhusha, Assistant Professor, IT
Student Editor
Ms. Saranya, III IT B

Email your comments and queries to:

Shahinaa/premkumar/srinivasanr
vidhushas@ssn.edu.in, saranbrb@gmail.com

Team effort can move mountains



ANALYTICS, THE BUZZ WORD

M. MANOJ, SALES AMBASSADOR, MU-SIGMA AND ALUMNI, IT DEPARTMENT

Data is everywhere. With the cost of memory decreasing and computing power increasing, data is doubling every 18 months. What can you do with the data apart from just storing them?

I will explain this with a simple example that came to my mind. You have data of scores of all the students in your class across all the subjects in a particular UT. What you can do now is to analyze the data. Build a simple graph that shows the scores of all the students in a particular subject. If the graph shows a low lying line that is similar across all the students, then we can conclude that all the students have scored less in that subject and the teacher should put in more efforts to get in some innovative methods to teach. Now, take the graph of students compared across the subjects. If the student has a low in all the subjects, then its not a problem with teachers, but its he/she who has to improve the methods of studying. This is just a simple example that you know and can understand how data can be useful.

But in the real world, people may come up with muddy problems like, why my store's sales is down last month? what are the reasons for my customer attrition? how should i spend my budget in marketing so that I get a good return on my investment? so on and so forth. Previously, before analytics was in place, people used to take gut based decisions which comes through their experience. But now, they can see a big difference when they move towards data based decisions which is more reliable. In the previous case, the Principal can't go and scold a particular teacher for not teaching properly seeing only one student's mark who anyways scores less in other subjects too. Also a particular student can't be scolded for getting low marks in a subject when the entire class is scoring less in that subject. Data can help you take the right decisions.

Analytics can be done at various levels. Descriptive level where you just build some reports based on the data, which describes the problem. Inquisitive level where you analyze

what had happened in the business so that a problem had come. Predictive level, where with the help of the current trend of data you have, you predict a probable kind of problem which may arise in the future. Prescriptive level, where you give insights on so what and now what with the problem.

The technologies used for analytics ranges from SQL which may be used for data retrieving, R, SAS, Hadoop, etc which may be used for analyzing data such as by grouping, rolling up or down, so on and excel which comes handy to build dash boards, graphs for display and so on. Other necessary skills to be an analyst are statistics (to know how to analyze the data) and powerpoint (to present the results in an efficient, simple and understandable manner). There is a great need of people in analytics space as the awareness on how data based decisions are better, is growing. It is really interesting to know how analytics can help us use the data and solve high impact business problems.

