cse@iitb: nwsltr$ ls -l

AMA
Prof. Uday Khedker

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CS Dept welcomes Manoj Prabhakaran, Preethi Jyothi and Arjun Jain

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Prof. Uday Khedker

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eof
Can anything be done to reduce this burnout? I don’t know whether we can do anything within the department. I would be very happy if the university, if the IIT administrative authorities in the capital, want to do something, and that’s a huge lift around it. I believe that there is too much of a pressure in the younger generation to get into IIT. When I was there, we would have a much larger number of IITs, or encourage other institutions to grow. We have a situation now where we have remained islands of excellence, which is in some sense good because we have maintained excellence. But the problem is that there are islands, there should be bridges between the institutions. I have been interacting a lot with the Shields committee, and that is the same kind of situation. So we have been telling them, talking, helping their teachers, and taking their students for projects.

As our HOD, what are the significant changes that you have seen? We are very, very troubled with the structure of our M.Tech program, for several reasons. In fact there is no structure in our M.Tech program. There is one compulsory course and the remaining are usually chosen arbitrarily. We would like to bring in some kind of a structure where we specify certain possible sequences of courses that students should take. The problem of lack of structure shows up in many ways - time-tabling, TA allocation, choice of projects etc.

What is the reason behind M.Tech project having such a huge variance? First of all of us are happy with the excessively large credit going to the M.Tech. Project. We don’t have a syllabus or an institute-wide decision and we cannot change it within our department, and we are stuck with it. Even if anything is changed within the institute level. I think that by introducing a standard stream program, perhaps we can expect a bigger output from the project courses.

“Students really work very hard and once they get in here, to continue working with the same pace is something that they find difficult!”

Students really work very hard and once they get in here, to continue working with the same pace is something that they find difficult! I felt that a majority of the students were doing quite well, but it did not seem to be evident by what is happening here. This could be because of several reasons, one of which is overexposure to things outside which seem more exciting in comparison. Twenty years ago we didn’t have so much of exposure. But I believe there is a more prominent reason. I think students are tired of the hard work that they had to put in to get into IIT. The hard work in IIT really makes an impact on your student pace in may lead to a burnout. Society has created a big hype around IITs these days. The students really work very hard and once they get in here, in continue working with the same pace is something that they find difficult.

On the other hand, I have found that students, faculty, people from outside, many people, are as brilliant and enthusiastic as they were a few decades ago. These are the ones who are the challenge, who are the reason why we are in this business. But I think the hard work you have to worry about the last bit of preparation. And then, I think there is the concern that “I can’t store the cache system on the architecture, because of which it becomes very difficult to publish. Due to this diverse nature of work being done in different areas, I’m not sure if it makes sense to introduce some kind of standardization in grading across the departments. I am not sure what the quality is, in grading within the areas rather than across the areas. Even in our own department we explain to our students that there is no grading being done, and they do see that we are being consistent.

How do you see our department? As a research or organisation teaching institute or a bootcamp for the students? An educational institution will have to remain all of these. I think the combination of teaching and research is a very good idea. But how it is after spending 20 years there. She simply said, “Uday, when you see the same fac- es, nothing much changes, and something, it be- comes very boring”.

Whereas we keep insisting on that one mind, this interaction with the younger generation fills me with a sense of responsibility as well as the privilege of very few people getting to work in the unreasonable set-up on a regular basis like this. So, I think, for me, there is a very simple reason why the combination of teaching a research is wonderful - working on your research - sometimes things don’t work as you had expected. You are always working on hammering the universe, and you have to overcome your disappointments. At that point of time I had to rely on my research and to fall in love with research. In that sense, the combination of research with teaching, with good examples, exercises, the questions that students ask and the research that one is doing. When you go to the university. We believe that programming is a skill and CS101 is more about developing a skill of looking at things differently, trying out different methods. I feel that at the same time, we feel that there could be con- fusion among students when they discuss and ex- change notes. So therefore we think that it is a good idea for one person to be in charge for one lecture but 4 people trying to teach total students.

What is your opinion on research at IIT compet- ing with industry? I don’t think that there is a problem. There are no IIT’s professors won any Turing awards? Why do you think research at IIT is so good, but not in it in industry? We have not had the same kind of progress as other institutions as others, but the problems we are solving are very different and that’s where the fun is. So, if you see the standard markers of research we are doing very well, but we look at the whole birth, solving important problems and the motivation with which we are working. I think we are doing it as well.

What are your views on the government’s involve- ment in institute policies?

Prof. Sahasrabuddhe used to say one thing: ‘How is the fun lost in the process? ’ What I would like to do is to try to answer all the questions that I don’t want to answer from anyone else, I want to decide. I feel that we should have institutions that we should have and we do have a large extent. We are not going to do without the educational institutions. I have been interacting a lot with the Shields committee, and that is the same kind of situation. So we have been telling them, talking, helping their teachers, and taking our students for projects.

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CS Department Welcomes New Faculty

MANOJ PRABHAKARAN
Prof. Manoj Prabhakaran, an IITB alumnus (class of 2008), returned to the institute in September 2016 from The University of Illinois at Urbana-Champaign where he was an Associate Professor. He obtained his Ph.D. from Princeton University in 2005. His research interests include cryptography and other topics in theoretical computer science. He currently takes CS 406, Cryptography and Network Security. He is also associated with the newly formed InfoSec Club at IITB. He graduated with an Institute Gold Medal from IIT Bombay.

Fun fact: He also worked with his brother to create the first fully functional Malayalam unicode font for Mac OS X. He suspects more people would have downloaded that font than any of his papers!

PREETHI JYOTHI
Prof. Jyothi joined us in September 2016. Prior to that, she was a Beckman Postdoctoral Fellow at the University of Illinois at Urbana-Champaign. She completed her Ph.D. from the CSIE Department at The Ohio State University in 2013. Her research interests are broadly in the areas of automatic speech recognition and machine learning as applied to the CSE Department at The Ohio State University in 2013. Her research interests are broadly in the areas of automatic speech recognition and machine learning as applied to speech. She currently teaches CS 735, Automatic Speech Recognition. She is also associated with the newly initiated AI/ML Reading Club at IITB.

Fun fact: “Preethi Resents Expanding Everything To Have Irony (unless it helps her broadly in the areas of automatic speech recognition and machine learning as applied to speech. She currently teaches CS 735, Automatic Speech Recognition. She is also associated with the newly initiated AI/ML Reading Club at IITB.

ARJUN JAIN
Prof. Arjun Jain joined the department in January 2017. A graduate from the University of Saarland, he did his Ph.D. at the Max Planck Institute, Germany, graduating summa cum laude. He is also co-founder at Perceptive Code, a company that provides vision-based tracking solutions for a variety of applications. Prior to this, he was a Researcher at Apple Inc., in a special project group in Cupertino. His research interests include Computer vision, computer graphics and Data-driven models for 3D content creation. In 2011, he worked as an R&D developer in the popular feature film The Adventures of Tintin.

Fun fact: His video on MovieReshape has more than a million views at youtube: https://www.youtube.com/watch?v=4KJj4pcl9Ao

Research and Innovation Symposium for Computer scientists (RISC)

- Research and Innovation Symposium for Computer scientists (RISC) is the research symposium of Dept. of Computer Science and Engineering, at IIT Bombay having its route in Research Fairs (Melas) organized over previous years; RISC was first organized in 2016.

This year, RISC will be held on Saturday, April 1st, 2017.

The basic format of RISC is for researchers to present their work in 5 minutes or less. Speakers are also requested to be well-classified as the giving researchers, and advanced researchers. At first blush, that looks challenging but in some sense it’s fair to both the audience and the speakers. The audience gets a sniff of what’s going on, and scholars the work is interesting from their point of view. The speaker is forced to focus and present the cogent arguments behind the research in a compact manner. RISC is also a friendly competition. When the audience and the jury vote for a speaker, she is invited to make a second presentation in about 7 min with more technical content. This time the audience includes our guests and visitors, such as people from the industry. The event is rounded up with industry participants giving “their” pitch, presumably for internships and job offers.

While talks are good, RISC has a fair number of posters for intimate discussion of ideas.

An account of RISC 2016

The symposium served as a showcase of research conducted by Masters and PhD students in the department. (IITB students are expected in version 2017.)

The day of RISC began with an address by Prof. Sudharshan S, the then Head, Dept. of Computer Science and Engineering. The first session was the preliminary rounds of the ‘Sprint Thesis Talks’ for early research scholars. PhDs (that last more than 2 years into the program) and Masters students 14 early research scholars presented sprint thesis talks in 3 minutes, followed by a minute for the questions. The panel of judges comprised of Prof. S. Sudharshan, Prof. Sujeet Kumar, Prof. Vinod Agar, Prof. Rushikesh Joshi, Prof. Sivakumar chaired the session. The second session of the day had 16 Senior research scholars (in addition to early research scholars) presenting their sprint thesis talks to the panel of judges comprising Prof. Sudharshan, Prof. Parashottam, Prof. Prateek Jain, Prof. Vinod Agar, Prof. Sujeet Kumar, and Prof. Sivakumar chaired the session.

In Room 105 and the lobby of the New Computer Science Building, the Poster session was conducted. 15 participants presented their posters to a panel of judges (Prof. Parshuram Chaudhuri, Prof. Siddharth Chaudhuri, Prof. Ajaykumar S., and Prof. Alokram Ranade). Industry visitors and students of the department. With lunch served in parallel, the discussion in the poster sessions enabled exchange of ideas and invigorating discussions.

The shortlisted speakers from the preliminary rounds, including 3 early research scholars and 6 senior research scholars, presented their sprint thesis talks, now in 7 minutes, followed by questions from the judges and audience (now including visitors from industry). The judging panel comprised of faculty members, including Prof. Nutan Limaye, Prof. Kamovatar Chalise, and Prof. Srikanth Veeramani (also the session convener), and people from the industry, including Dr. Mitesh Khapra from IBM Research (also an IITB Ph.D. alumnus). Prof. Ajit Rajwade chaired the session. The session ended with closing remarks from the industry visitors and Prof. Sharat Chandran, RISC 2016 convenor.

Following the finals, interested industry visitors spent time talking to students in face to face sessions. Allowed in different rooms, these discussions allowed students to understand the work in these organizations, and also the organizations to know the interests, skills and aspirations of students.

The day ended with tea, and RISC 2016 ended with dinner in the Kanwal Rekhi building lobby.

The slides and videos of the talks, pictures, and detailed reports are available on the RISC homepage at: https://www.cse.iitb.ac.in/risc

Acknowledgements

RISC 2016, the Research and Innovation Symposium for Computer scientists organized by the Computer Science and Engineering department IIT Bombay, was held on Saturday, April 2, 2016 in the Kanwal Rekhi building, and had the following findings:

- The event was attended by ~450 people, including 210 students, 90 faculty members, 150 guests and visitors, such as people from the industry, including Dr. Mitesh Khapra from IBM Research (also an IITB Ph.D. alumnus). Prof. Ajit Rajwade chaired the session.
- The day ended with closing remarks from the industry visitors and Prof. Sharat Chandran, RISC 2016 convenor.

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RISC 2016, the Research and Innovation Symposium for Computer scientists organized by the Computer Science and Engineering department IIT Bombay, was held on Saturday, April 2, 2016 in the Kanwal Rekhi building (KReHIT) building and New CSE building. The RISC 2016 team was convened by Prof. Sharan Chandra, and consisted of Mahesh Prasad, Aditya Joshi, Praveen Gopal, Anshuman Dhillon, and R. Thiyagarajan. The team received feedback and suggestions from the Head, and other faculty members in the department from time to time. The core RISC team was supported by volunteers who provided able support in timekeeping (especially important for a packed talks schedule), video recording, hospitality, and venue management.
Artificial Intelligence

In “The Right Kind,” an episode of the dark science fiction drama Black Mirror, a young woman, after the untimely death of her boyfriend Ash in a car crash, her grief sets her on a quest to know about a company that uses her social media footprint and digital communication to build a robot evoking his personality with remarkable perfection. She later pays for a variant of the service that imprints fully personal and unique traits and looks, which does not work, finding something missing in the android which makes it different from Ash, it is cold and emotionless. The bot is an imitation of a human, yet not a true human, and somehow cannot evoke new emotions or thoughts. Recent advancements in AI like neural networks have however made this illusion of humanness more powerful. These naturally raise the question if such virtual, technological entities pass for true humans.

Two years later, she succeeded in her endeavour, almost recreating the Black Mirror episode “Be Right Back” in reality!

A fascinating story, both from a human and scientific point of view, is that of Eugenia Kyuda, and her close friend Roman Mazurenko, both tech entrepreneurs. For two years she had been building Luka, whose first product was a messenger app for interacting with bots nicknamed robot reservations.

As the authors of the Stanford AI Study aptly summarize, “As a society, we are now at a crucial juncture in determining how to deploy AI-based technologies in ways that promote, not hinder, democratic values such as freedom, equality, and transparency.”

“People’s future relationships with machines will become ever more nuanced, fluid, and personalized as AI systems learn to adapt to individual personalities and goals.”

6. Internet of Things (IoT)

A growing body of research is devoted to the idea that a wide array of devices can be interconnected to collect and share their sensory information. Such devices can include appliances, vehicles, buildings, cameras, and other things while it’s a matter of technology and business to connect these devices which currently are incompatible communication protocols. AI can process and use the resulting huge amounts of data for intelligent and useful purposes.

There are several other areas like reinforcement learning (which focuses on decision making instead of pattern mining) and crowdsourcing (which aims to augment computer programs with human crowdsourcing).

Defining AI

Continually, the lack of a precise and universally accepted definition of AI probably has helped the field to grow and advance at an ever-accelerating pace. Practitioners, researchers, and developers of AI are instead guided by a rough sense of direction and an imperative to “get on with it.”

Nils J. Nelson has provided a useful one: “Artificial intelligence is that activity devoted to making machines intelligent, and intelligence is the ability to act rationally in a given domain, to function appropriately and self-right itself in its environment.” The pitfalls of using such a definition familially in that case a simple calculator would be considered intelligent as it functions faster than a human brain and with almost perfect accuracy. Rather one should take the broad view that intelligence lies on a multi-dimensional spectrum and there is no clear-cut distinction between human and artificial intelligence.

Because AI suffer from a recurring pattern known as the “AI effect” once AI brings a new technology into the common field, people tend to be quick to acclaim it, and lesser technology emerges. AI does not “deliver” a life-changing product out of the blue. Rather, AI technologies continue to get better in an incremental sense.

An interesting case study

A fascinating story, built from a human and scientific point of view, is that of Eugenia Kyuda, and her close friend Roman Mazurenko, both tech entrepreneurs. For two years she had been building Luka, whose first product was a messenger app for interacting with bots nicknamed robot reservations.

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Know your department

Two professors in the graph have been connected if respective professors have published (Journal Articles and Conference or Workshop papers) at common venues at any point in their careers. In addition, larger edge weights indicate a larger number of publications at common venues.

The distances between any two nodes in the above graph are not indicative of the ‘closeness’ between the corresponding professors.

Disclaimers and Miscellaneous observations

- Several faculty members might have shifted research areas over the last few years. Therefore, this graph may not be the perfect indication of the current research focus of the CSE faculty.
- The data used for the purpose was obtained courtesy of DBLP. We apologize for any omissions resulting from incomplete or inconsistent information present in DBLP.
- A small threshold has been used to prune off edges in an effort to reduce noise.

Two major sub-groups can be identified -- CFDVS and Programming Languages (PL).
- Most professors in CFDVS have published with other faculty in the group at common venues. In fact, the theory cluster nearly forms a clique?
- Prof. RK Shyamasundar is closely associated with faculty members from the PL and CFDVS.
- Surprisingly, the data indicates that Prof Diwan is more closely associated with the AI group! The most probable reason is that he has published at venues like Journal of Graph Theory, Discrete Mathematics (Journals), CALDAM, Discrete & Computational Geometry, etc. where other members of the theory group haven’t.

The data shows that there are two smaller densely connected communities within this group - one consisting of faculty who have worked broadly on Computer Networks and Operating Systems and the other sub-group has faculty affiliated with Infolab (working on problems in databases, data mining, information retrieval, etc.)
- There are very few edges between the two sub-groups because the corresponding venues do not overlap.
- Prof. Krishna R. Sridhar has published extensively at venues of both the above sub-groups.
- As can be seen, the Infolab faculty members are closely connected to faculty from the AI/ML group. In addition, several faculty members have edges with Prof. RK Shyamasundar, owing to his work broadly in Real time systems & Parallel Programming.

The faculty from VIGIL (Vision, Graphics and Imaging Lab) publish -es at a large set of venues, including but not limited to CVPR, ICVGIP, IEEE Transactions on Pattern Analysis & Machine Learning, IEEE Transactions on Medical Imaging, IPMI, ISBI, MICCAI, etc.

• However, the small number of connections between the faculty in this group is a result of small overlap of venues between faculty members, along with the fact that we are using a small threshold to prune edges in an effort to reduce noise.

• The group is connected to members from the AI and Machine Learning group.
• Several faculty members have links to Prof. Ajit Diwan. The AI/ML group is also very strongly connected to the Infolab faculty members (in fact, Prof. Soumen Chakrabarti & Prof. Sunita Sarawagi have been categorized into this group because of their interests in data science along with other areas.)

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Abhisekh Sankaran

Abhisekh Sankaran graduated with a PhD in CS last August. He talks about his work, his PhD experience, his future goals and what excites him.

On my work

I work on mathematical logic and model theory. The main highlight of my PhD is a set of theoretical results. There are connections to practice, but bar that my work is mostly theoretical. A strength of model theory is that is it, deals with infinite structures that are vastly different from the entities that we can manipulate in practice. This includes many areas of mathematics that we can be using in CS, and their strong connections to logic.

Mathematical logic has 4 different sub-areas: model theory, set theory, proof theory and recursion theory. I work on model theory. Classical model theory, as it is called, deals with infinite structures that are used in many areas of mathematics, such as groups, fields, rings, and vector spaces among others. Finite model theory deals with finite structures that arise in practice such as graphs, trees and automata. There are many interesting mathematical statements expressible in finite model theory. These can be studied with the widely studied hereditariness property.

In the middle of 2011, two undergraduates (Pritish Kamath and Vivek Madan) expressed interest in working with me on a problem of my own. I greatly appreciate them for their bold decision because this was certainly not any lucrative option for them. I was also grateful for their help for employment in any companies. The active discussion on this problem led to interesting results for interesting special cases. We submitted these results in early May 2012 as a paper to an international conference, that got accepted.

I began investigating the context of preservation theorems, and gladly found that some of these do satisfy GLT(k). The property simply states that a large system contains a small "logically similar" substructure. And, once again, what was done with a purely theoretical tool turned out to be useful. I was able to extract out as a property by itself, such that any class of structures satisfying the property would have a small "logically similar" substructure. I discovered that some of these do satisfy GLT(k).

I began researching into these results. I realized that I was using to prove GLT(k) could be extracted out as a property by itself, such that any class of structures satisfying the property would have a small "logically similar" substructure. I discovered that some of these do satisfy GLT(k).

I was able to discover some of these results in my own independent work. This helped in solving TRDDC's particular problem, and but left me curious about a simple characterization? A last factor that has strongly driven my research is: To check a large structure for a property, one checks the same for the small and logically similar substructure. And, finding such a substructure can indeed be done efficiently (in some cases, even in linear time).

Most of the classes I've mentioned above admit polynomial time algorithms for decision and optimization problems that are otherwise hard (NP-complete). The "EBSP"-ness of these classes provides an explanation for this: To check a large structure for a property, one checks the same for the small and logically similar substructure. And, finding such a substructure can indeed be done efficiently (in some cases, even in linear time).

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I therefore began studying these results for interesting special cases. We submitted these results in early May 2012 as a paper to an international conference, that got accepted.

I was able to discover some of these results in my own independent work. This helped in solving TRDDC's particular problem, and but left me curious about a simple characterization? A last factor that has strongly driven my research is: To check a large structure for a property, one checks the same for the small and logically similar substructure. And, finding such a substructure can indeed be done efficiently (in some cases, even in linear time).

Most of the classes I've mentioned above admit polynomial time algorithms for decision and optimization problems that are otherwise hard (NP-complete). The "EBSP"-ness of these classes provides an explanation for this: To check a large structure for a property, one checks the same for the small and logically similar substructure. And, finding such a substructure can indeed be done efficiently (in some cases, even in linear time).
What’s cooking?

InfoSec Club

The CSE Cybersecurity Club has been started as an independent body under the CSEA. The club has been started with two main objectives in mind:
1. To spread awareness about various technical/non-technical aspects of Computer Security.
2. To build strong teams for Capture The Flag competitions.

Capture the Flag (CTF) events are cybersecurity competitions, usually designed to serve as an educational exercise to give participants experience in securing a machine, as well as conducting and defending against the sort of attacks found in the real world. Participating in CTFs is an excellent way to get started with network security. The club will be holding the first ever institute-wide CTF in early April.

The club aims to achieve its objectives through presentations, guest lectures and informal group sessions for CTFs and Wargames. The first session of the club was on Social Engineering, which describes how hackers use human physiology to carry out security attacks. A CTF session was held where students were mentored one-on-one about cracking CTF problems. The club has a public Facebook group with more than 800 members already.

The TA of the semester award for July to December 2016

Cynthia Josephine for Prof. Kavi Arya's course Embedded Systems (CS 684)

To quote Prof. Kavi Arya, “The work of such TAs such as Cynthia goes a long way in delivering a quality experience to students. This includes:
1. Proactively turning up as Lead TA and coordinating TA meetings and working in an action plan for each meeting.
2. Helping refine assignments and labs and their orderly conducting and assessment.
3. Managing student clubs after milestones and keeping track of attendance at labs.
4. Having an opinion on how best to work the workload of both students and TAs to bring the course to an orderly and timely closure.
This made for a satisfying execution of the course. As an aside I’ll add his achievement.

AI/ML Reading Group

The goal of this reading group is to learn about new developments and foundational concepts in machine learning (ML). We also intend to track latest research papers in top AI/ML conferences and discuss them in depth.

The group meets once in two weeks on Wednesday in NIC 205 from 3-4 pm.

Each meeting will go on for roughly an hour and will be led by a single speaker. These can be informal whiteboard talks and speakers do not need to use slides. These are meant to be very serious sessions, so questions from the audience are highly encouraged.

So far the group has had presentations from:
• Prof. Sanjiv Satish who presented “Kernel Embeddings of Conditional Distributions”, Le Song, Kenji Fukumizu, Arthur Gretton.
• Prof. Saketh Nath who presented “Residual Embeddings of Conditional Distributions”, Le Song, Kenji Fukumizu, Arthur Gretton.

The council’s last word

We, the Department Council, want to thank you for the opportunity given to us in the last academic year to be involved in various academic and nonacademic activities, initiatives for the betterment of academic and social factors of the student community.

There were ups and downs regarding various policies and events planned but on a greater scale, we feel that we made a gradual update towards reaching a maxima (hopefully a global one). While helping the rock roll uphill, we had the support of various institute and department bodies along with countless volunteers whom we are indebted to.

We wish MATSYA the very best in the coming years!
A Semester in Singapore

Yogesh Kumar

Hi, I’m Yogesh Kumar and I had spent a semester at NUS Singapore as an exchange student during my fourth semester (Spring 2010). First get to know about the exchange program from my ISMP mentor and the idea to spend a semester in a whole new country and to experience international education instantly attracted me. I spoke to seniors who had been on exchange previously and quickly understood what an exchange program is all about. After some research, it came to me as a shock that no student from the CSE department had gone on an exchange in the past 4 years. I was held back by the fear of spoiling my academics and also by the fear of leaving the company of good friends, getting out of my comfort zone and to go and live to a place with no known faces. But after tedious discussions with my seniors and professors, I understood that there were no disadvantages to going for an exchange and I made up my mind to go. I found out that the major reason why CSE students don’t go on exchange was that no university offers a separate theory and lab course for the same module and due to this the lab courses are needed to be completed once you are back from exchange. The solution I found out for this was that you can ask your Faculty Advisor to allocate the same grade you obtain for the lab and theory course.

Procedure

All the exchange related activities are taken care by the International Relations (IR) department at IIT Bombay. The procedure to apply for exchange seems it is just two things, which is, you have to select the university you want to go to. The university should have an MoU with IIT Bombay. And then submit the approved list of courses with your personal information to the IR department. Then you are sent to the concerned country and sometime the hosts have to check your [telephonic] conversations for the past 3 months earlier than the deadline of the university to which you want to apply. That’s because things might not always go in your way, you may find out that the procedure of the courses you want to take is different. And also language of instruction of certain courses is not English and many more. Also, take some time to explore the scholarship opportunities. Only 3 universities, namely ETH Zurich, NUS (only for autumn semester) and Cooper Union explicitly offer scholarships to incoming exchange students, but there are some foundations in many countries who offer scholarships to exchange students. Some other scholarship opportunities being Chaparral (France) and DAAD (Germany).

My decision to choose NUS was mainly due to lack of options as most of the undergraduate courses are offered in German or French in every European university. But this shouldn’t be a problem for a 3rd or 4th year student as you can opt for the related master’s level courses which are offered in English. NUS is a very popular exchange destination. NUS has over 700 exchange students from all over the globe each semester, which makes the exchange programme very special. In one of my courses, there were more exchange students than local students. NUS has an extremely vibrant fabric of extracurricular activities, and study abroad students are encouraged to get involved with any clubs or activities they find interesting.

Tall buildings, big hearts and warm people – that is the easiest way I can define Singapore in a few words. I can’t count out one “big” downside to the living experience here in Singapore. The solid transportation structure means that students can get around campus and the island with ease. Give yourself a half-hour cushion, and you can be downtown watching a movie or in Little India having dinner.

There is a misconception about semester exchange program as some people describe it as an extended vacations abroad. That is definitely not the case. Being in a world class university, you can conduct some quality research under some professor in one of the world’s best lab or you can complete several projects which would definitely look good on your resume. Also, some students who were previously on an exchange might say that the academics are very tuned down as compared to IIT. However, I would like to impress upon you that it is not the same case at NUS for computer science students. The School of Computing is different from the Engineering department. There are barely any mid-term exams, projects, labs or assignments in engineering and the computer science courses there are weekly labs, tutorials and homework assignments. Most of the courses have a semester long project and all the computer science courses have mid-term exams. There are some really amazing courses offered by NUS such as Competitive Programming, 3D Game Development, Combinatorial Methods in Bioinformatics which can help you add extra dimensions to your skill set. It’s not like a semester exchange is all about the good moments. I have had not one but several moments when I regretted my decision to go on exchange. One such incident was when my hostel denied providing Indian vegetarian food as they said it was very inefficient to cook separate food for only one person in the hostel. I thought I could manage with the dry food I brought from India and trying Chinese food at the hostel. But as my dry food supply neared its end only in the 1st month, I had to travel back home and replenish my food supplies during the recess week.

Would I recommend going on semester exchange? YES! You will meet so many new people from so many different nations that by the end of your semester, you are likely to have one friend from each of the countries that you have heard about. Every time after overcoming a difficult situation, you realize what a semester exchange is all about. It teaches you how to tackle problems in life. I left NUS as a changed person. Finally, I would like to thank my family, my brother for always supporting me and letting me go to NUS. Even if I wanted to, I just won’t be able to forget all the wonderful moments I have had here with such really wonderful people.

Who are your best friends in the department?

Prof. Biswas and Prof. Sanyal. We work in the same area, we started GCC Resource Center (GRC) together and we have a very good chemist... I feel like there’s a lot of technical matters but it doesn’t affect our friendship.

Which is the course where I would not be able to say something in class because I was so excited and worried about the course material?

I would say the course where I could say anything in class because I was so excited, but I would not know how to make it sound. In the course of our decision making, we are often confused about choices and the possibilities are endless. It is unsure of what can be done or what should be done. So Prof. Sanyal and Prof. Biswas provided that support to me. It was possible for me to talk to them freely about my half-baked ideas, technical or non-technical. I think sharing our dilemmas with each other is the biggest thing that happens between us.

What are your political inclinations?

That’s very difficult to decide. Sometimes it’s right of the center, sometimes it’s left of the center, but not to any extremes.

What do you do on your day off? What are your kind of interests?

I enjoy doing my work. I usually work very late. So, I don’t push myself too much and therefore it’s only when I’ve gone through a phase of some projects and teaching of CS101, that I feel I need a break. But when that happens I generally like to read, write and listen to music. I write poetry. The Sangeet Section of the IR department published my poem in their Reader’s Digest: “If you know how to spend a perfect day, I’ll give you my recipe!” And they published my poem on “behind the art of living.” And I think I have learned the art of living. I can spend a perfectly useless afternoon in a perfectly useless manner! (laughs)

Do you like your new building’s architecture? Will it help in saving us during a zombie invasion? (The building has a huge dome).

Yes, this architecture has been thrust upon us in a very enriching. At the end of the course, the students were asked to review the course by the Department of Computer Science and Technology with each other. We argued a lot on technical and non-technical. I think sharing our dilemmas with each other is the biggest thing that happens between us.

From the Editors

Dear all,

We hope you enjoyed reading the second edition of the CSE department newsletter, BitStream! We sure had a great time working on this issue.

We look forward to hearing from you about suggestions in which BitStream can be improved, and criticisms about this issue. All of you are most welcome to join the newsletter.

TEAM

RISC - Prof. Sharat Chandran, Thyaga-rajan Radhakrishnan
Know your department - Anand Dhoot, Shuddhabata Jain, Kartik Singhal
AUV - Matsya - Hari Prasad V
Gallery - Mukesh Pareek
Recording AMA - Naveen Bhokya
Special Thanks
Aditya Kusupati
Prof. Shrivastava for pointing us to the One Hundred Year Study on Artificial Intelligence by Stanford University.

“Tiny Trusty World Of My Own”

Reading faces of my students
Gave me strength, spirit and fuel
In this era, bad trends will rise
To create a world which embraces me
A tiny trusty world of my own
A world where I’m not the crazy alone
A world where I can be different
I ask What should I want for my future?
Goodness is life’s purpose, excellence its identity
A world where people do good
No wonder I’m more than a teacher
Students too are more than students
Work, work, work, and their chores
Coping and achieving happiness and joy
With charming innocence like little kids
Sharing a rather passionate bond
The world however doesn’t last long
Beautiful memories remain like a song
Accompanying me through troubled times
Reality has its own puzzles
There are achievements, honours – true
Ages, medals and failures too
And amidst all these pains and pleasures
I feel I’m extremely lonely
But I know that it really
Till I create yet another
Tiny trusty world of my own

FROM THE EDITORS

Dear all,

We hope you enjoyed reading the second edition of the CSE department newsletter, BitStream! We sure had a great time working on this issue.

We thank everyone who participated in the process of writing, editing, and designing the newsletter.

We look forward to hearing from you about suggestions in which BitStream can be improved, and criticisms about this issue. All of you are most welcome to join the team. Hope to see a larger body of people working enthusiastically for BitStream next time around!

Signing off,
Yashwanth Reddy and Aniket Murhekar
bitstream.cse@gmail.com

(continued from page 2)