School of Computing Gets New Dean

The School of Computing welcomes Professor David S. Rosenblum as its new Dean with effect from 1 July 2013. Prof. Rosenblum received his PhD in 1988 from the Department of Electrical Engineering at Stanford University. Prof. Rosenblum has been with the Department of Computer Science since 2011, and prior to that he was Professor of Software Systems at the Department of Computer Science at University College London.

The Department of Computer Science, on behalf of the School of Computing, would also like to formally thank outgoing Dean Professor Ooi Beng Chin, whose years of tireless leadership have propelled the School to its current top-10 global position, and ranking of first in Asia.

School of Computing Graduates Second Highest in US Employer Reputation

School of Computing was listed 9th in the world by US News’ World’s Best Universities in Computer Science, based on 2012 data provided by Quacquarelli-Symonds (QS) Top University rankings. This ranking places the department in the same league as other top computer science universities like the Massachusetts Institute of Technology and Oxford University. More significantly, the report shows that the graduates enjoy the second highest reputation score (94.7) amongst employers in the United States, edging out ivy-league colleges like MIT and Stanford, with only Tokyo University scoring higher.

School of Computing 9th Best School Globally for App Developers

Business Insider has ranked the School of Computing 9th best school globally for applications developers, placing it ahead of the prestigious Princeton University, and one position behind the Swiss Federal Institute of Technology (ETH Zurich). Business Insider cites the School’s focus on turning students into technical experts, critical thinkers, effective leaders and lifelong learners, whose alumni have moved on to successful careers in Google, Microsoft, and Lucas Films.

AWARDS & HONOURS

Professor Ooi Beng Chin Appointed to Distinguished Professorship, Wins NUS Outstanding Researcher Award

Distinguished Professor Ooi Beng Chin, Director of the Interactive Digital Media Institute and immediate past Dean of the School of Computing, has won the NUS Outstanding Researcher Award. Prof. Ooi received the award at the University Awards Ceremony held at the University Cultural Centre on 26 April 2013.

For his many innovations Prof. Ooi has won many prestigious awards internationally including Fellow of the Association of Computing Machinery, Fellow of the Institute of Electrical and Electronic Engineers, IEEE Computer Society Kanai Award, and the ACM SIGMOD Contribution Award.

Earlier, Prof. Ooi was appointed Distinguished Professor with effect from 13 February 2013. The Distinguished Professorship is awarded to a senior faculty member who has received international recognition and demonstrated excellence in research and creative activity, together with significant leadership in raising the standards of the University with respect to research or creativeness, teaching and service.

Associate Professor Abhik Roychoudhury Appointed to Association for Computing Machinery (ACM) Distinguished Speaker Programme

Associate Professor Abhik Roychoudhury has received an appointment to the Association for Computing Machinery (ACM) Distinguished Speaker Program as of 13 May 2013. This appointment recognizes A/Prof. Roychoudhury as a leading expert and researcher in his field and provides him a platform where he can share his research and ideas with professional organizations, peer institutions, governments, and industry bodies.
Assistant Professor Richard Ma Wins Best Paper Award at IEEE International Conference on Cloud Engineering 2013

Assistant Professor Richard Ma has won the inaugural Best Paper Award at IEEE International Conference on Cloud Engineering 2013 for his paper entitled "ABACUS: An Auction-Based Approach to Cloud Service Differentiation". The paper was co-authored with Dr. Zhang Zhenjie, and Dr. Yang Yin from the Advanced Digital Sciences Center, Singapore and Ding Jianbing of Sun Yat-sen University, China.

The IEEE International Conference on Cloud Engineering (IC2E), held in San Francisco, California from 25-28 March, is a new conference that seeks to provide a high-quality and comprehensive forum, where researchers and practitioners involved in the development of cloud infrastructure and applications can exchange information on engineering principles, enabling technologies, and practical experiences as related to cloud computing.

Their paper along with other notable papers from the conference will be published in a special edition of IEEE Transactions of Cloud Computing.

Professor Tan Kian Lee Receives IEEE Computer Society’s Technical Achievement Award

Professor Tan Kian Lee has been awarded the 2013 IEEE Computer Society Technical Achievement Award for technical achievements in advanced query processing in database systems. The Computer Society presented the award to Prof. Tan at a dinner and ceremony held on 12 June 2013 in Seattle, Washington, USA.

Prof. Tan is an editorial board member of IEEE Transactions on Knowledge and Data Engineering, the WWW Journal, and the VLDB Journal. His research interest in database systems focuses on query processing and optimization in a wide range of domains, including parallel, distributed, peer-to-peer, multimedia, high-dimensional, main memory, spatio-temporal, wireless, and mobile databases.

The IEEE Computer Society Technical Achievement Award is given for outstanding and innovative contributions to the fields of computer and information science and engineering or computer technology, usually within the past 10, and not more than 15 years. Contributions must have significantly promoted technical progress in the field.

Adjunct Professor Pete Kellock Wins Outstanding NUS Innovator Award

Adjunct Professor Pete Kellock was awarded the Outstanding NUS Innovator Award by NUS Enterprise for his contributions to muvee Technologies, a home-grown technology company that created the world’s first automated video production software. Prof. Kellock is also a globe-trotting music composer, and uses his experience starting up muvee Technologies to mentor entrepreneurs in NUS, INSEAD and the Singapore Management University. He is advisor to local incubator Fatfish.

Two NUS Teams Win Second and Third Places in Inaugural Underwater Robotics Competition

NUS School of Computing students, Goh Eng Wei, Louis Tran, and Jonathan Ong, are part of a team of 10 National University of Singapore (NUS) students that won second and third places at the inaugural Singapore Autonomous Underwater Vehicle Challenge organized by IEEE’s Oceanic Engineering Society in March 2013. Eng Wei was part of the team that built Coconut Pi that secured third placing, while Louis and Jonathan were part of the team that built Bumblebee, which secured second placing. Both teams comprised of Computer Engineering, Computer Science and Mechanical Engineering students to build autonomous underwater vehicles (AUVs) that can maneuver in the water and overcome obstacles through artificial intelligence.

Bumblebee was supervised by Associate Professor Marcelo Ang of the Department of Mechanical Engineering at the Faculty of Engineering, while Coconut Pi was supervised by Dr. Colin Tan of the Department of Computer Science, School of Computing.

Eng Wei has now joined Team Bumblebee to participate in the 16th International RoboSub Competition this July in San Diego, California. This will be the first time a Singaporean team will be participating in this prestigious competition. NUS School of Computing, NUS Faculty of Engineering, and Temasek Hall have contributed $15,000 in support of the team.
**FACULTY & STAFF NEWS**

**Professor Sanjay Jain, Professor Tan Kian Lee Re-appointed to Provost’s Chair Professorships**

Professor Sanjay Jain and Professor Tan Kian Lee have been re-appointed as Provost’ Chair Professors.

During Prof. Jain’s term as Provost’s Chair Professor, he has maintained an extremely prolific output in his research and has been effective in his administrative service to the school. Of special note, in recent years, Prof. Jain and his team have succeeded in clarifying automatic classes of languages that are robustly learnable. They have also shone new light on the complexity of verbal languages and pattern languages of finite sets - that the complexity is independent of Thurston automatic representation and cannot be context-free.

In terms of service, Prof. Jain was the inaugural Chairman of the CS Dept Standing Teaching Evaluation Committee. He has served also on CS EXCO and CS Curriculum Committee. Lastly, he has served on the FPTC for the last three years.

During Professor Tan’s current term as Provost’s Chair Professor, he has been a great role model for CS faculty. He has been conducting research at a blistering pace, with impressive results especially in cloud-based data management and spatio-temporal data management. He has also made significant contributions in developing two very large grant proposals that have now been funded by NRF.

Prof. Tan’s research excellence was also recognized recently by the 2011 President’s Science Award and a 2013 IEEE Computer Society Technical Achievement Award. Besides research, Prof. Tan has contributed significantly to administrative service in the school as Vice Dean (Research), Vice Dean (Academic Affairs), Chairman of FPTC, Chairman of FTEC, CS EXCO, and Area Leader of the Database Cluster.

**Professor Wong Lim Soon Appointed KITHCT Professor**

Professor Wong Lim Soon, Head of the Department of Computer Science, has been appointed Kwan Im Thong Hood Cho Temple (KITHCT) Professor. Prof. Wong and his students have made great advances in the area of computational biology. Some important results include genetic status shifting distance for childhood leukemia relapse prognosis, which is the first known gene expression-based model that significantly and consistently outperforms MRD33 (the current clinical gold standard) in multiple trials. Another result was on network-based analysis of proteomic profiles, where they introduced a thought-provoking contextualization approach which significantly improves the dismal recovery and consistency rates in untargeted proteomics. A third result was on the intentional expressive power of query languages, where Prof. Wong made an ingenious technical breakthrough and proved a dichotomy theorem which significantly generalizes several decade-old results.

Prof. Wong was conferred the Singapore Youth Award Medal of Commendation in 2006 for sustained contributions to science and technology. This is a prestigious national award given to a select few previous winners of the Singapore Youth Awards (SYA) who have seen their achievements and contributions reaching significantly higher levels after receiving their SYA. It honors young people whose achievements would serve as an inspiration to others.

**Associate Professor Stephane Bressan Presents Keynote at TeSCA Award Ceremony**

Associate Professor Stephane Bressan was invited to give a keynote talk at the Telkom Smart Campus Award (TeSCA) Ceremony 2013 in Jakarta. Held on 1 May 2013 at Hotel Dharmawangsa, the TeSCA award is given to the state and private universities in Indonesia for their implementation of information, communication and technology.

A/Prof. Bressan shared the stage with Prof. Djoko Santoso, Director General, Directorate General of Higher Education, Ministry of Education and Culture of the Republic of Indonesia, where they presented on the "Strategic Role of ICT to Enhance Competitiveness of Higher Education Institutions toward World Class University".

TeSCA is a program to provide a map, measurement index and ranking of ICT application among higher education institution in Indonesia. TeSCA is initiated for the first time in 2008. This year, TeSCA 2013 is organized by PT Tempo Inti Media Tbk (TEMPO Media Group) supported by Directorate General for Higher Education of Ministry of Education, Association of Higher Education for Computer Science (Aptikom), National Committee for Information Technology and Communication (Detiknas), and Telkom Indonesia as the initiator.

**Assistant Professor Seth Lewis Gilbert Appointed Dean’s Assistant Chair Professor**

Assistant Professor Seth Lewis Gilbert has been appointed Dean’s Assistant Chair Professor as of 1 April 2013. Dr Gilbert is a leading researcher in fault-tolerant distributed computing with a particular expertise in the algorithms underlying large-scale distributed systems. He applies these techniques in several different domains, including wireless (and mobile) networks, cloud computing infrastructure, and high-performance parallel computing.

Dr Gilbert is well known for his "CAP Theorem", which settled Brewer’s Conjecture that it was impossible for a distributed computer system to simultaneously provide guarantees on consistency, availability, and partition tolerance.

More recently, he has made significant contributions in the area of high-performance parallel computing. In the case of mutual exclusion, his algorithm was an exponential improvement over existing results, and has led to significant new interest by
the research community in sub-logarithmic protocols for multiprocessor coordination.

**Professor Joxan Jaffar Appointed Advisory Committee Member at Chinese University of Hong Kong**

Professor Joxan Jaffar has been appointed an Advisory Committee member for the Department of Computer Science and Engineering, Chinese University of Hong Kong. This appointment is for a period of two years, starting January 2013.

Prof. Jaffar was previously the Head of the Department of Computer Science at NUS School of Computing from 1998-2001, and Dean of the School of Computing from 2001-2007. His research interests are in programming languages and applications, with an emphasis on logic and constraint programming paradigms.

Prof. Jaffar is well known for his seminar contributions to the development of constraint programming. More recently, he has focused on building a new foundation for software verification, testing, complexity analysis, and optimization based on the interpolation framework.

**Dr. Damith Rajapakse Inducted into NUS Teaching Academy**

Senior Lecturer Dr. Damith Rajapakse has been inducted into the NUS Teaching Academy in recognition of his teaching excellence. Dr. Rajapakse had won the NUS Annual Teaching Excellence Award three years in a row, and has earned high scores and strong positive feedback from students for his software engineering courses. The NUS Teaching Academy aims to place NUS at the forefront of teaching excellence through pursuing teaching and learning innovation, while fostering a balance between research and teaching.

**Recent Ph.D. Graduate Wins Nanyang Assistant Professorship Award**

Assistant Professor Liu Yang, a recent graduate from the Department of Computer Science’s Ph.D. programme, was awarded the Nanyang Assistant Professorship Award at the Nanyang Technological University (NTU). This award is reserved for the top Assistant Professors at NTU and comes with a S$1m start-up research fund. Dr Liu was a student of A/Prof. Dong Jin Song, and his research interests include formal methods, software security and software engineering. Dr Liu is currently Assistant Professor at the Division of Software and Information Systems, School of Computer Engineering at NTU, and is heavily involved in the development of the Process Analysis Toolkit (PAT), which is a self-contained framework to support composing, simulating and reasoning about various systems.

**RESEARCH HIGHLIGHTS**

**Zoomable Video**

*By Associate Professor Ooi Wei Tsang*

Have you ever watched a lecture webcast, where the text projected on the screen is too small to read? Wouldn’t it be nice if you can zoom into the video, and watch a bigger, clearer video of these text? After all, as the resolution of video cameras become higher (HD is the norm, and 4K is coming), it is not impossible to capture many details on the screen in a webcast. The reasons why many video streams are sent in lower resolution is due to limitation in bandwidth -- streaming a HD video consumes a few Mbps -- and limited screen estates.

Associate Professor Ooi Wei Tsang, along with his team of research staff and students, have been working on a new technology called zoomable video, to bridge the mismatch between the resolution of the captured video and the resolution of the display video. Their zoomable video player lets the user to watch the video at low resolution by default, but also allows user to zoom into a region-of-interest of the video and watch the region at higher resolution as needed. The user can pan around the zoomed-in video. To achieve this effect, the original HD video is pre-processed into lower resolution copies, each corresponding to the resolution for a given zoom level. The “zoom in” operation is therefore simply switching to a copy of the video at a higher resolution.

_Recent Ph.D. Graduate Wins Nanyang Assistant Professorship Award_

Assistant Professor Liu Yang, a recent graduate from the Department of Computer Science’s Ph.D. programme, was awarded the Nanyang Assistant Professorship Award at the Nanyang Technological University (NTU). This award is reserved for the top Assistant Professors at NTU and comes with a S$1m start-up research fund. Dr Liu was a student of A/Prof. Dong Jin Song, and his research interests include formal methods, software security and software engineering. Dr Liu is currently Assistant Professor at the Division of Software and Information Systems, School of Computer Engineering at NTU, and is heavily involved in the development of the Process Analysis Toolkit (PAT), which is a self-contained framework to support composing, simulating and reasoning about various systems.

**STUDENTS & ALUMNI NEWS**

**Novatap and Sent.ly Win Mentorship Trips to UK in Echelon 2013**

Novatap, founded by Computing alumni Kshitiz Shankar and Kalpit Jain, and Sent.ly, founded by Computing alumnus Varun Chatterji, have won a new mentorship competition organized by UK software company Red Gate and the Infocomm Development Authority (iDA), at Echelon 2013, Asia’s largest technology conference.

Both companies will fly out to Red Gate’s headquarters in Cambridge, United Kingdom this summer, where they will receive individually tailored mentoring from the team that grew Red Gate from a small start-up to an international firm.

Red Gate had originally intended to bring only one company over, but was so impressed by the startups that they doubled the original prizes to fund two companies.

(Taken from: Yahoo! Finance article “Two Singapore Startups Win Trip To Cambridge, UK, for Mentoring by Red Gate Software” dated 6 June 2013.)
resolution, cropping the region that the user wants to watch, and sending the cropped region to the player for display. The “pan” operation corresponds to cropping a different region in the video at the same resolution.

Supporting the “zoom” and “pan” operation is easy and commonly done for images (such as photos and maps). Doing the same for video, however, is non-trivial. The challenges are many, ranging from video coding (how to efficiently crop a region from a compressed video?) to interaction design (how to reduce the number of zoom and pan actions in a video with much motion?).

Designing Paper Pop-up s Computationally

By Assistant Professor Low Kok Lim

Paper pop-up books have long fascinated people of all ages. A paper pop-up must obey certain geometric and physical rules so that it can be folded flat as well as properly popped up and remains stable. This strict requirement has made it challenging for most people to design non-trivial paper pop-ups. Only very recently, we began to see efforts to automate the whole design process. Such an automated system typically will take in a user-specified digital 3D model of an object, and generate a set of paper layouts with annotations on where to cut and fold and on how to assemble the paper patches to construct the pop-up.

To devise computational methods to automate the design process, we must formulate solutions to four aspects of the problem: (1) assemblebility, (2) foldability and stability, (3) physical strength, and (4) shape abstraction. The solutions can be markedly distinct for different pop-up styles. Currently, our research team has developed solutions for two common styles, namely the lattice style and origamic architecture (see figures). We are still working on other pop-up styles and hoping that this will provide us insight to unify the solutions for all styles.

Besides making pop-up design more accessible to everyone, we hope our studies can benefit the automation of design in other applications that have similar requirements, such as the design of space-saving foldable objects.

Improving Eyewitness Sketch Recognition

By Assistant Professor Terence Sim

Eyewitness testimonies have played an important role in police investigations for many decades. Pencil sketches of the suspect’s face, obtained from eyewitnesses, are routinely used to help police and the public in identifying and convicting criminals. However, psychological studies have shown that such sketches are unreliable, biased, and often lead to wrong arrests. To tackle this problem, we are combining psychological insights into human memory with modern computer vision techniques. This is done in two steps. First, we attempt to compensate for the eyewitness’ mental bias (f) by eliciting his/her drawing profile (f’) based on photographs of known faces. This is then used to alter the eyewitness’ Main Sketch to produce a de-biased sketch.

Second, we employ a psychological finding called the Exception Report Model which states that the human mind does not remember all facial features, but only those that are “unusual”, i.e. those that significantly deviate from the average face. This is the basis of caricatures. More specifically, we detect shape deviations from an average face to extract the relevant facial features. These are further combined with other cues, such as scars, moles, and ethnicity, to be matched against a database of known criminals.
thereby generating a shortlist of candidates for further police follow-up. Experiments confirm the superiority of our approach, and we are now preparing to trial with the Singapore Police Force.

We are excited by our method, as it offers a modern and practical solution to the age-old problem of obtaining reliable eyewitness sketches. We believe it has the potential to change the way police acquire such sketches, and thus reduce wrongful arrests.

**Recent Projects at the NUS HCI Lab**

*By Assistant Professor Zhao Shengdong*

Since its founding in 2009, the NUS HCI Lab has been prolific in applying its research findings in producing applications that are useful to a general audience. This article highlights some of the recent work in this lab.

**Beyond Stereo** is an Unconventional Binocular Presentation for Novel Visual Experience. We use 3D stereoscopic display technology to deliver unconventional visual experiences to the viewer, in which users see two separate images through their two eyes, and the two images are different in ways never possible in the real world!

**TangiKit**: We introduce an interactive tangible programming toolkit, teaBlock, for interactive art works or general purposes by attaching pre-designed components to the object of environment. By attaching toolkit units on surfaces, artists can configure the blocks through an easy-to-use graphic user interface.

**Sandcanvas**: Sand animation is a performance art technique in which an artist tells stories by creating animated images with sand. Inspired by this medium, we have developed a new multi-touch digital artistic medium named SandCanvas that simplifies the creation of sand animations. SandCanvas also goes beyond traditional sand animation with tools for mixing sand animation with video and replicating recorded free-form hand gestures. In this paper, we analyze common sand animation hand gestures, present SandCanvas's intuitive UI, and describe implementation challenges we encountered. We also present an evaluation with professional and novice artists that shows the importance and unique affordances of this new medium.

**Autogami**: is a toolkit for designing automated movable paper craft. It has hardware and software components that allow users to design and implement automated movable paper craft without any prerequisite knowledge on electronics, and supports rapid prototyping.

**TactArt**: Interactive art advantages over conventional art experiences, where interactions are limited to visual only. Exploiting the sense of touch, as the interactivity feature is an interesting, yet less explored area in the arts domain. TactArt is an end to end system for synthesizing and experiencing multimodal visual-tactile interaction for visual arts. TactArt is composed of a creativity support toolkit for synthesizing tactile effects for artistic expressions, and a wearable solution for augmenting visual arts with touch interactivity.
CLASSROOM HIGHLIGHTS

The 2nd STePS Showcase

By Associate Professor Kan Min Yen

The School of Computing Term Project Showcase is an end-of-the-semester event that brings together all of the class-based projects and project modules in SoC. It’s a festive yet serious class showcase, in which students present their class projects in all aspects of computer science and information systems to the respective faculty for review and grading.

Students, faculty, technology entrepreneurs and prospective students will have the opportunity to experience the innovations created by the students. The second School of Computing Term Projects Showcase (2nd STePS) was held on 24 April 2013, Wednesday, for 4 hours in the early evening. It was a tremendous success with over 450 attendees that included over 250 student team presenters spread across 7 classes, as well as over 20 external guests from alumni, industry and major MNCs.

2nd STePS involved a lot of external participation from companies and sponsors, who played an integral role in the success of the event both in sponsoring the costs and awards for student teams as well as helping to provide much-needed real-world feedback to students on their projects.

The prize ceremony saw teams from each class win S$400 worth of prizes, commemorating the event with speakers from Drive.SG and Microsoft. The team that won in the CS3240 Interaction Design class 3rd-year students Computer Engineering Shambavi Krishnamurthi, Rahul Rajeev and Nguyen Vo who designed EzMon, a smart watch to measure vital signs such as heart rate, body temperature, activity and blood glucose -- also did well at Startup@Singapore though they did not emerge as winners. They were among the 28 teams in the finals out of 467 teams. The team also won the Merit Award in the National Assistive and Rehabilitative Technologies Challenge 2013 (Design Category).

We look forward to the upcoming 3rd STePS in November 2013, for the next semester!

CS3240 Interaction Design

By Dr. Bimlesh Wadhwa

Module CS3240: Interaction Design, in its new ‘avatar’, was offered for the first time in Semester II AY2012/13. Building on its predecessor module on Human Computer Interaction, the new version of CS3240 is substantially updated and the material is streamlined to provide a comprehensive and fast-growing multidisciplinary field of interaction design.

The module stresses the importance of user-centered design and usability of applications. A central theme is that design and evaluation are interleaving, highly iterative processes, with roots in theory but which rely strongly on good practice to create usable products. Students learn how cognitive, social and affective issues apply to interaction design, and how to gather, analyze and present data in interaction design. The module has hands-on orientation and students are explained how to carry out variety of techniques through in-class small group activities, assignments, seminars, and project. Peer interaction is encouraged through a Facebook group which is also used by teaching team to provide pointers to respected blogs, online articles, tutorials, case studies and other useful materials. Students are introduced to Bootstrap and Flash in lab sessions. Seminars are designed for peer learning and to encourage students to actively read and think about seminal issues in interaction design. The skills and knowledge acquired in the module is put to practice in the team project which requires students to design and develop a task-centered interactive application. Project gives students to practice contextual inquiry, task-analysis, storyboarding, affinity diagramming, and paper-prototyping before developing and evaluating an interactive prototype.

In Semester II AY2012/13, seventeen teams demonstrated their projects in 2nd SoC Term Project Showcase and won attractive prizes.

CS3217 Software Engineering on Modern Application Platforms

By Assistant Professor Sim Khe Chai

In AY2012/13 Semester II, we offered CS3217: Software Engineering on Modern Application Platforms for the third time. This year, we selected 32 students from over 60 applicants to embark on a 13-week journey of intensive software programming using iOS as the development platform. As with previous years, the focus of this course is to teach the application of software engineering principles with the goal of training students to write good quality and maintainable software.

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Students were provided with an iPad if they do not own one. As most of them started off without any iOS development background, for the first 6 weeks, students worked on five challenging individual assignments specifically designed to build up their iOS programming skills. Through these assignments, students picked up Objective-C, learned the UIKit programming framework, implemented a basic 2D physics engine from scratch and finally put together a complete app, which is essentially an Angry Bird clone!

During the second half of the semester, students were given the opportunity to put their software engineering skills into practice by building creative apps in groups of four. They worked through the complete software development cycle - from the inception of ideas and app design to the actual coding, testing and debugging. After seven weeks of hard work, eight amazing apps were incarnated and showcased during the 2nd School of Computing Term Project Showcase.

MORE INFORMATION

Special Programmes for Computer Science Students

The Department of Computer Science offers two special programmes for students who wish to push themselves further. One programme is targeted at students who wish to solve large, complex real-world problems, while the second prepares students for a research career in Computer Science.

The von Neumann Programme (vNP)

Blending academic knowledge and industry experience into Computer Science education

The von Neumann Programme is named after John von Neumann to commemorate this scintillating intellect of computer science.

John von Neumann is an excellent role model for students of the von Neumann Programme, inspiring them to pursue difficult large-scale problems, to enjoy translating theory to practice, and working in large team to make contributions to the world. This special programme thus aims to nurture students who aspire to engage in an industry career emphasising design of complex computing systems.

The von Neumann Programme is most suitable for students who love to solve complex real-world problems and develop complex computer-based systems for real-world applications. Students will be selected for admission into vNP at the end of their first or second semester of study based on their CAP and interview. Students admitted into vNP will be assigned CS professors and industry partners as their mentors, who will help them to blend academic knowledge and industrial experience into their studies. They must maintain a minimum CAP of 4.0 in every semester of their study.

For more information on this programme please see http://www.comp.nus.edu.sg/undergraduates/cs_vpa_prospective.html

The Turing Programme (TP)

Preparing students for a research career in Computer Science

This four year programme is named after Alan M. Turing to commemorate this outstanding pioneer of computer science.

Alan M. Turing is an excellent role model for students of the Turing Programme, inspiring them to pursue fundamental work, to take bold new direction, and to make concrete contributions to the world. This special programme therefore aims to nurture students who aspire to engage in a pure research career in computing.

The Turing Programme is most suitable for students who love to solve technically challenging problems and are able to handle both theoretical and practical work. Students will be selected for admission into TP at the end of their first or second semester of study based on their CAP and interview. Students in TP are expected to build a sufficient track record by the time they graduate to gain admission into the Ph.D. programmes in top schools including SoC. So, students admitted into TP will be assigned CS professors as their mentors to help them to build their track records. They must maintain a minimum CAP of 4.0 throughout their study.

For more information on this programme please see http://www.comp.nus.edu.sg/undergraduates/cs_tp_prospective.html

Useful Links

School of Computing
http://www.comp.nus.edu.sg/

Department of Computer Science
http://www.comp.nus.edu.sg/cs/

Other news

This newsletter issue and other issues are available at
http://www.comp.nus.edu.sg/cs/cs_newsletters.html