

Greetings from the CSE Chairman

I am excited to share with you the news about our CSE department. Nationwide, there has been a decline in enrollment in Computer Science programs. Our numbers have declined slightly, but our new Computer Engineering program has attracted new students. In fact, I am pleased to announce that our first class of Computer Engineering students graduated in May. When our BA degree changes to Information Technology in Fall 2008, this should have a positive impact on our student numbers.



The University of North Texas has been designated as an emerging research university by the Texas Higher Education Coordinating Board. The Department of Computer Science and Engineering is leading the way toward this goal. In 2006, our CSE faculty increased the number of publications and was awarded \$1.6 million in research grants. Already in 2007, we have received over \$1 million in research grants. With your support, UNT can reach its goal of being a research university.

Krishna M. Kavi, Chair

UNT Signs Agreement to Form Net-Centric Software Engineering Consortium

Dr. Krishna Kavi announced that the University of North Texas has signed a Memorandum of Understanding with three other area universities to form a Net-Centric Software Engineering Consortium. The other universities are the University of Texas at Arlington, the University of Texas at Dallas, and Southern Methodist University.

Research in new software engineering methodologies is needed. Net-centric operation is an emerging paradigm and family of tactics, techniques, procedures, and capabilities that use a networked environment to meet new and evolving challenges through information integration and adaptive solutions. Net-centric computing focuses on the network as a way of integrating diverse resources and services. Its primary goal is to support dynamic creation of solutions to unanticipated threats and malfunctions. Applications of net-centric systems range from emergency response systems to defense systems, medical and healthcare systems, transportation systems, and other mission- and safety-critical systems.

Now that the four universities have signed this agreement, the group is working to develop industry membership agreements. They plan to submit a proposal to the National Science Foundation's CISE (Computer and Information Science and Engineering) Computer Research Infrastructure program. They also plan to develop a Industry/University Cooperative Research Center (I/UCRC). For more information about this consortium, go to <http://www.csrl.unt.edu/~kavi/NetCentric/>.

B.A. Changed to Information Technology

After almost two years of working with faculty, employers, and educators from around the DFW Metroplex, the B.A. in Computer Science will become the B.A. in Information Technology starting in Fall 2008. The change was approved in April 2007 by the UNT University Curriculum Committee. Final approval is pending with the Texas Higher Education Coordinating Board.

The idea to change the B.A. began in July 2005 when some members of our CSE Advisory Council met at Research Park to discuss a radical "inside out" approach whereby students are not exposed to the traditional science of Computer Science during the first two years. The curriculum begins with two courses in Information Technology that introduce students to the design of enterprise information systems and distributed systems. These courses are lower division "capstone" style courses where the primary focus will be a large team development project.

At the end of the program, students will be required to take a two-semester senior capstone course sequence, similar to the sequence in computer engineering. In addition, students will complete a 9 hour specialty sequence of their choice within the IT and Computer Science area. This will provide the student with depth of knowledge in one particular focus area. The students will also take 6 hours of "global perspective" courses which could include foreign language, international business, or related courses.

The most innovative aspect of the program is the 18 hour supporting specialization sequence that permits students to take courses outside of their major but in support of an applications area for their IT skills. Sample programs have been identified in areas such as Information Security, Pre-Med, Pre-Law, Management, Criminal Justice, Bioinformatics, and others. Transfer students may also be able to use specializations from Associates degree programs such as Networking as long as the courses are from a properly accredited community college. This feature gives students maximum flexibility in designing a degree program to meet their specific career interests.


First Computer Engineering Students Graduate; Accreditation to Follow



The Department of Computer Science and Engineering is proud to graduate its first class of Computer Engineering students this May and August. Shown in the picture are (back row L-R), Spence Virdell, Bradley Cromwell, and José Macias; (front row L-R) Jessica Hayden, Mitra Mahdavian, and Danny Hall. After graduation, at least four of the six students are planning to attend graduate school immediately, at least one of them at UNT, one at Stanford and two at Texas A&M in Texarkana. The others plan to attend in the future.


Along with this graduation comes the first time that UNT can apply for accreditation for the Computer Engineering program from the Engineering Accreditation Commission (EAC) of ABET (Accreditation Board for Engineering and Technology). A Self-Study required by ABET is due July 1. In Fall 2007, a team of ABET evaluators will visit the department to review the program and meet with CSE students, faculty members, the administration of the College of Engineering, and top administrators at UNT.

The B.S. in Computer Science has been accredited since 1986 and was most recently reaccredited in 2003. Since the B.S. in Computer Engineering began in Fall 2003, it has been the goal of the department to get the program accredited at the first opportunity. Accreditation means that students, parents, and prospective employers can rest assured that the program adheres to a set of well-established guidelines, evaluation and assessment procedures, and that the faculty, courses and support services are of the highest quality.



ROBOCAMP

UNT EChallenge Camps 2007



CSE Experience

The UNT College of Engineering is offering a series of summer camp programs collectively called EChallenge Camps for young women entering the 8th through 12th grades. The programs are managed by faculty from the Department of Computer Science and Engineering with student support from several other departments in the college. This year's program includes the third year of the successful Robocamp as well as the addition of an Advanced Robocamp for returning students. In addition there will be a CSE Experience computer programming camp and an Eng-inuity! Engineering Design camp. The camps will be offered in June and July at both the UNT Dallas campus and the Research Park campus in Denton. More details about the camps can be found at <http://www.cse.unt.edu/echallenge2007>.

New CSE Faculty

JungHwan Oh received M.S. and Ph.D. degrees in computer science from the University of Central Florida in 1997 and 2000 respectively. During his study, he also worked for Office of Research at the University of Central Florida, where he led a project to implement relational database handling proposals, awards of grants and faculty information. As soon as he finished his Ph.D., he worked as a visiting professor in the School of Electrical Engineering and Computer Science at the University of Central Florida. Dr. Oh worked with the Department of Computer Science and Engineering at University of Texas, Arlington from 2001 to 2006. He joined the Department of Computer Science and Engineering at University of North Texas in August 2006.



His research topics include Medical Image Analysis, Video Data mining, Multimedia Database Management Systems, Surveillance Video Processing, and Video Communications in Wired and Wireless Environments. He has established a medical video research with the collaboration of Iowa State University and the Mayo Clinic in 2003. This research focuses on medical video (colonoscopy, endoscopy, bronchoscopy, minimal access surgery, etc.) analyses and mining such as video segmentation, blurry frame detection, reflection detection, operational tool detection, abnormal disease detection, and multimedia database building. Also, he has initiated a medical multimedia information research about Wireless Capsule Endoscopy with the collaboration of University of Texas Southwestern Medical Center at Dallas, Texas. This research focuses on image data mining, blood detection, and reducing the viewing time for capsule endoscopy videos. As results of these researches, four proposals (Total \$1,543,850) have been granted from National Science Foundation (EIA-0216500, and IIS-0513777, IIS-0513609 and IIS-05135824), UNT (Faculty Summer Research Fellowship 2007) and UTA (Research Enhancement Program 2003).

He has organized a number of workshops and Special Sessions on multimedia data processing, and served as a member of program committee and an editor of various international conferences on imaging science, systems, and information technology. He is a member of IEEE, ACM, and International Association of Science and Technology for Development (IASTED) Technical Committee on "Database". He is the author or coauthor of 55 journal articles, book chapters and conference papers.

CSE Department Named Finalist for Texas Higher Education Star Award

The UNT Department of Computer Science and Engineering was one of eight finalists nominated for the Texas Higher Education Star Award, established by the Texas Higher Education Coordinating Board to recognize exemplary contributions toward closing the educational gaps that challenge the state.

The Texas Higher Education Coordinating Board recognized the CSE department for its recruiting and retention efforts. Dr. Krishna Kavi credits the recognition to RoboCamp and the CSEagles program, two innovative programs sponsored by grants from the Texas Technology Workforce Development program.

NetworkWorld Calls Dr. Dantu's Research Project One of the Top Ten to Know About

Dr. Ram Dantu's VoIP research has been named one of the ten cutting-edge network research projects by NetworkWorld in an article published in June 2006. The article refers to a collaborative research grant from the National Science Foundation (NSF) which was awarded in March 2006 for a three-year period. Dr. Dantu is the PI for "A Testbed for Research and Development of Secure IP Multimedia Communication Services," along with other researchers from Purdue University, Columbia University, and University of California at Davis. UNT will receive \$315,000 of this \$600,000 research grant.



During the summer of 2006, Dr. Dantu received two more grants from the NSF for research projects beginning in September 2006. For the first grant, "Detecting Spam in IP Multimedia Communication Services," Dr. Dantu will collaborate with Dr. Henning Schulzrinne from Columbia University for two years. UNT will receive \$131,392 of this \$250,000 research grant. Dr. Dantu also received a second NSF grant for \$300,000 for a three year research period for "Development of a Flexible Platform for Experimental Research in Secure IP Multimedia Communication Services."

According to the website, ScienceDirect, Dr. Dantu's article *EAP Methods on Wireless Networks* published in the Journal of Computer Standards and Interfaces was the number one article downloaded in the list of the Top 25 Hottest Articles. Dr. Dantu's co-authors for this article were Gabriel Clothier and Anuj Atri.

In March 2007, the NSF made a continuation grant of \$66,065 for Dr. Dantu's Collaborative Research: CRI: A Testbed for Research and Development of Secure IP Multimedia Communication Services.

Dr. Ian Parberry Named Microsoft MVP Again

Dr. Ian Parberry served as Program Committee Chair for the 2nd Annual Microsoft Academic Days Conference on Game Development which was held aboard the Disney Wonder Cruise ship February 22-25, 2007. The conference featured peer-reviewed academic papers and presented an opportunity for university faculty to learn from and interact with researchers and technology specialists worldwide who actively contribute to the research and promulgation of game development in the Computer Science curriculum.



Dr. Parberry relaxing with Maria Klawe, President of Harvey Mudd College

Dr. Parberry also served on the conference steering committee and helped to persuade a long-time colleague, Maria Klawe, President of Harvey Mudd College, to be the Keynote speaker. Dr. Klawe presented a dynamic talk, "Games, Gender and Why It Matters." Later Dr. Parberry presented his paper on "SAGE: A Simple Academic Game Engine" which he developed with his team of UNT students, Jeremiah Nunn, Joseph Scheinberg, Erik Carson, and Jason Cole. The SAGE engine allows universities with new game development programs and inexperienced faculty to quickly get up to speed using techniques Dr. Parberry has found to be most successful in his 13 years of teaching game development at UNT.

Dr. Parberry, the author of three books on game programming, has been recognized by Microsoft as a Most Valuable Professional for four consecutive years and has received funding from Microsoft Research. Dr. Parberry's former UNT Ph.D. student (2005), Dr. Tim Roden, of the University of Louisiana at Lafayette, also presented a paper, "Educating Game Programmers," at the conference.

LIT Collaborates with IPN in Mexico City

According to recent studies (<http://www.ethnologue.com>), there are more than 7,000 languages spoken worldwide. From these, only about 15 to 20 languages can currently take advantage of the benefits provided by machine translation or other language processing tools. The "Babylon" project carried out by the Language and Information Technologies lab is trying to address this problem, targeting the construction of large amounts of word and phrase aligned parallel corpora, especially for languages where currently there is little or no parallel text available (parallel texts, also known as bilingual corpora, are bodies of text available in two or more languages).



(L-R): Grigori Sidorov, Alexander Gelbukh, Yulia Ledeneva, Miguel Angel Rios, Itzli, Michael Mohler, Sulema Torres, Cameron Palmer, Christian Loza, Rada Mihalcea

Three UNT students, Christian Loza, Michael Mohler, and Cameron Palmer, together with Rada Mihalcea, are working on this project jointly with colleagues from the National Polytechnic Institute (IPN) in Mexico City, developing methods for building parallel corpora for languages with scarce resources. They are currently working on two languages from Latin America: Quechua, spoken by 14 million people in 14 countries, mainly in Bolivia and Peru, and Nahuatl, spoken by 1.5 million people in Mexico. As part of the "Babylon" project, the UNT team spent two weeks in Mexico City carrying out research together with the IPN group, and interacting with other Mexican institutions interested in this project. The project is funded by the UNT "Hispanic and Global Initiative" program.

Outstanding CSE Students Recognized on Honors Day

Maria Asencio — Outstanding Undergraduate Student in Computer Science

Maria Asencio is a senior double majoring in Computer Science and Mathematics and plans to graduate this August. She has been involved in different organizations on campus. She is now the secretary of the SHPE-Elite organization. As a McNair scholar, she has participated in different research projects and conferences. She is actively involved in the development of a mathematical model for the prediction of the vegetation regeneration after fire and rainfall, a project led by Dr. Monticino in the Math Department. She has a strong interest and passion in mathematical modeling and computational science. After graduating, she will attend Cornell University to pursue a MS/Ph.D. degree in Statistical Science. She is a CSEagle Ambassador for the Engineering Department where she has the opportunity to interact with other female prospect engineers. Her dreams are to travel the world, enjoy natural sceneries, and experience other cultures.



Danny Hall — Outstanding Undergraduate Student in Computer Engineering

Danny says he has really enjoyed his time at UNT during the last 4 years. He has gotten to know a lot of the faculty and staff and he really appreciates their help in obtaining his goal. Danny graduated in May with his B.S. in Computer Engineering. He has received a job offer that will pay for his M.S. Danny belongs to IEEE, IEEE Computer Society, and Society of Women Engineering (SWE). He currently holds two officer positions as the Treasurer for both the IEEE Computer Society and the Council of Engineering Organizations, and has held other officer positions in the past. Danny has helped the Council of Engineering Organizations set up and execute the Career Fair. He also helped with the DC Best Competition, the Future City Competition, and the CSE department's RoboCamp during the last two summers.



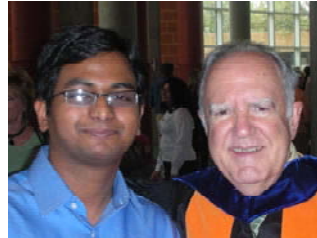
Yanos Saravanos — Outstanding Master's Student in Computer Engineering

Yanos Saravanos graduated with his B.S. in Computer Science in August of 2003. He continued his studies at UNT to pursue an M.S. in Computer Engineering, where he was given the opportunity to work on a wireless sensor network project with Dr. Robert Akl in the Wireless Sensor Lab (WiSL). He received his M.S. in December of 2006. As a graduate student, he was also the president of the UNT Cycling Club and the treasurer of the IEEE Computing Society. Yanos has been working as a software consultant with Corning and will begin working at JPMorgan-Chase in July of 2007. He remains heavily involved with competitive road cycling and triathlons, and also enjoys his photography hobby.



Srikanth Palla — Outstanding Master's Student in Computer Science

Srikanth comes from a sleepy town called Vizayanagaram in Southern India. During his stay at UNT, he worked as a Research Assistant with Dr. Ram Dantu in Network Security Laboratory (NSL) which is very active in researching network security. He published research papers in prestigious conferences and journals. Notably, in 2006, he went to MIT (MIT Spam Conference 2006) to present a paper on detecting phishing attacks in emails. Srikanth successfully defended his thesis titled "A Multi-Variate Analyses of SMTP Paths and Relays to Restrict Spam and Phishing Attacks in Emails" in October 2006 and graduated from the Computer Science Department. Currently, he is working as a VoIP test engineer in tekVizion Labs in Dallas. His hands-on experience with VoIP equipment in the Network Security Laboratory helped him ease into his job very quickly. When Srikanth is not busy with his research for anti-spam solutions, he loves reading, watching cricket, and spending time fishing and camping in the great outdoors.



Srikanth Palla with CENG Dean, Dr. Oscar Garcia, on Honors Day 2007

Xiaobo Peng — Outstanding Ph.D. Student in Computer Science

Xiaobo Peng graduated in December 2006. He had worked as research assistant for Dr. Swigger and Dr. Brazile for many years. His last project is a web application with a MySQL database as the back-end for the Radiological Emergency Preparedness (REP) Program of US DHS. He worked with Dr. Swigger, Dr. Brazile, Scott Flowerday and Chad Johnston to develop the tool for evaluating emergency response plans of governmental and private organizations. He personally feels that project is the best thing he has done in his life so far. He is very proud that he contributed much of his leisure time to such a project that he deemed very beneficial to the safety of our society. He is committed to work hard to make more contribution to our society. After graduation, he joined Become.com, a small comparison-shopping company in Mountain View, CA.



Outstanding Students Recognize Faculty Members at Honors Day

These students were asked to name faculty members who were a source of inspiration and support during their time at UNT. These CSE faculty members were recognized at Honors Day: **Dr. Robert Akl, Dr. Robert Brazile, Dr. Ram Dantu, and Mr. David Keathly.** Congratulations to these faculty members on receiving this honor.

Alumni Focus

Neil Goldman graduated with a Bachelor's degree in Computer Science in August 1983. He accepted a job as a software design engineer with Texas Instruments in Dallas. He spent two years programming in Pascal, interfacing Printed Circuit Board design systems to the manufacturing numeric control systems. In 1985, Neil accepted a new position with Texas Instruments in Austin, as the systems manager for the Operating Systems development group for TI's Artificial Intelligence product, the Explorer.



In 1987, Neil accepted a position as systems manager with the Process Instrumentation development group of Fisher Controls in Austin.

In 1996, Neil accepted a position with Compaq Computer in Houston, as Manager, Computing Services and was relocated to Houston. As the company grew, this environment grew to be predominately used for ASIC development by the Industry Standard Server division. In 2003, Neil was selected for the position of Manager, ASIC Design and Verification.

During a company reorganization in 2004, Neil was selected to participate in a Business Process Improvement program, and received his certification as a Six Sigma Black Belt, working to reduce warranty costs for HP's Industry Standard Server division. In 2005, Neil was awarded the ISS Quality award for his work. In 2006, Neil received HP's Enterprise Storage and Server business unit's MVP (Most Valuable Person) award. Neil is currently working on expanding the diagnosis methodology to other server commodity subsystems.

He lives in the Houston area with his wife Shelia, also a UNT alumna (MS 1984) and their two children.

Scholarship in Memory of Ben Hamilton

Benjamin Travis Hamilton, 29, died on April 24, 2007 near Cameron, Texas. Ben received his B.A. in Computer Science in 2003 and worked on diverse projects such as a website to improve health care communication and computer programs for the NASA space program. Ben was born August 13, 1977 in Fort Worth and grew up in Justin, Texas. Ben is survived by his parents, Clarence "Cla" Hamilton and Patti Hamilton of Forestburg, Texas, by his sister, Katharine Lee of Denton, and his brother, Steve Hamilton of Hazen, Arkansas.



To honor Ben's memory, his parents have set up a scholarship fund at the University of North Texas. The Benjamin T. Hamilton Memorial Scholarship will be available to computer science majors in the Department of Computer Science and Engineering who are enrolled full or part-time. First consideration will be given to students who are emotionally, mentally and/or physically challenged as determined by the University Office of Disability Accommodations and meet the above qualifications. If no applicant possesses these characteristics, any student enrolled full or part-time in the Department of Computer Science and Engineering will be eligible for consideration.

If you would like to contribute to this fund, please make checks payable to the UNT Foundation and send them to: UNT Division of Advancement, Benjamin T. Hamilton Memorial Scholarship, P.O. Box 311250, Denton, TX 76203.

Texas Codeboys Compete in Budapest Again

For the second consecutive year, the Texas Codeboys (John Rizzo, Michael Mohler, and Jack Lindamood—accompanied by faculty advisor Ryan Garlick) traveled to Budapest, Hungary on May 2, 2007 for the final round of the 7th annual Extreme Programming Competition.



(L-R) John Rizzo, Michael Mohler, Jack Lindamood and Faculty Advisor Ryan Garlick

The contest involved solving previously unseen programming-related problems for 24 hours straight with no cell phones, internet access, or outside help of any kind. The contest this year had a space theme, with contestants earning points for solving various problems related to a cosmic game.

When the dust settled the next day, the Codeboys were in 19th place out of the best 30 teams in the world. Teams were composed not only of students, but also industry professionals from around the world. The final round of 30 teams was selected from an initial field of over 300 teams that competed in a qualifying round. The Texas Codeboys finished 3rd in the qualifying round. To see more information on the contest and event photos, please go to:

http://www.challenge24.org/ch24_2007/blog.php

The Texas Codeboys are John Rizzo, a Computer Science senior; Michael Mohler, a Computer Science graduate student; and Jack Lindamood, a computer science alumnus now attending graduate school at University of Texas at Dallas. These three students have been competing together regularly for the past three years, and in combination with other students during their tenure at UNT.

Prior to this contest, the Texas Codeboys competed in the International Online Programming Contest and finished 4th in this international contest in a field of 634 registered teams. They were the top USA team, followed in 7th place by a team from the University of Central Florida. These rankings can be seen at <http://students.iitk.ac.in/programmingclub/iopc/>.

UNT Places Third in Cyber Defense Competition



(L-R): Dr. Steve Tate with UNT's cyber defense team: Damiri Young, Chris Gathright, Andrew Riehm (team captain), Andrew Ellis, Will Parker, Dustin Ho, Jason Beck, Tze-I (Elisa) Yang

UNT hosted the Southwest Regional College Cyber Defense competition March 23-25, 2007 at Research Park. This was one of five regional competitions in the nation and this was also the largest with ten teams competing. Each team consisted of eight members set up in separate rooms with six computers each, imitating a business network and web page with the goal of updating the network while protecting it at the same time for three days. A "red team" made up of five security specialists tried to disrupt the networks in several ways that simulated hacker attacks in the real world. UNT's cyber defense team placed third overall in the competition and they also won an award from Cisco for utilizing its products the best.

This was the first time UNT had hosted the competition, giving the school's computer science program recognition in the region. Dr. Tate said, "It raises visibility and people got to come to UNT. Many people mentioned that they were very impressed with the way we did the competition and our facilities.

To receive our newsletter by email three times a year, please register at:

http://www.cse.unt.edu/people/alumni_application.php

To update your information, go to:

<http://www.cse.unt.edu/people/updateAlumniInfo.php>

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