



Computer Science and Software

Message from the chair

We are at a historic moment in the Department of Computer Science and Software Engineering (CSSE) at Auburn University – moving into the new Shelby Center for Engineering Technology. This is a magnificent building! Compared to the previous home we had from 1984 to 2007 in the basement of Dunstan Hall, the new building will certainly brighten the future of the department in many aspects. First, we should be able to increase the number of top quality faculty, graduate students and undergraduate students we attract to the department. The environment in Dunstan Hall was always an issue for our recruiting efforts. The new environment will provide the opportunity to be more competitive with peer institutions. Second, the additional lab space provides much needed room to grow. Before moving to the new building, CSSE was scattered in eight buildings and had little space to conduct research projects. Many times new research equipment had to be placed in boxes and stored away until new space could be found. Finally, as an anchor tenant of the new building, the image of the department will improve significantly within the College and the University. We once were the new kid on the block, occupying the leftover space. Now, we are properly housed in a major building and ready to reach a higher level of accomplishment.

There are so many people and entities that CSSE would like to express appreciation to - specifically Senator Richard Shelby, Dean Larry Benefield, the Engineering Alumni Council and Auburn University. Thanks are also due to those who labored hard in the past few years to make the building a reality. I would like to invite alumni, families, friends and supporters to visit our new home. We would love to give you a personal tour!

The past year has been a productive year for our research programs. In 2006, the department received a total of \$3,382,067 in new research grants and contracts, making it one of our most productive years in terms of external funding.

There are still many challenges we are facing. While we are excited about moving to the new building, our department is responsible for furnishing the computing equipment in the teaching labs ourselves. There are seven CSSE teaching laboratories in the new building. Funding for two of the labs has been secured, one from a successful competitive grant and the other from the dean's office. Some computers from the old CSSE labs can be re-used in the short term. However, more computing faculties will be needed for the new labs. If you or your organization are interested in facilitating the realization of the full potential for one or part of the new laboratories, please let us know.

I strongly believe that, with the support of our alumni, friends and supporters, we will move up to the next level of achievement! War Eagle!

Kai Chang, Chair and Professor
Department of Computer Science and Software Engineering



Chang



New faculty, faculty change

The department is pleased to have two new assistant professors for fall 2007. **Wei Shinn (Jeff) Ku** received his doctorate in computer science from the University of Southern California in 2007. Ku's research interests lie in the area of databases and mobile computing, with an emphasis on spatial and mobile data management, location-based services (LBS), peer-to-peer systems and distributed system security. For his doctoral dissertation, he worked on sharing-based spatial query processing, dynamic information management in mobile environments and privacy protected query processing in spatial networks. The primary objectives of his current research are to design optimal infrastructures and efficient algorithms for processing queries and to provide end users with high quality and secure services and applications.



Ku

Xiao Qin received a doctorate in computer science from the University of Nebraska in 2004 and was a faculty member in New Mexico Tech before coming to Auburn. Qin's research interests include parallel and distributed systems, real-time computing, storage systems, fault tolerance and performance evaluation. His research is supported by the National Science Foundation, Auburn University, Intel Corporation and Altera Corporation. He had served as a subject area editor of IEEE Distributed System Online 2000-2001 and has been on the program committees of various international conferences, including IEEE Cluster, IEEE IPCCC and ICPP.

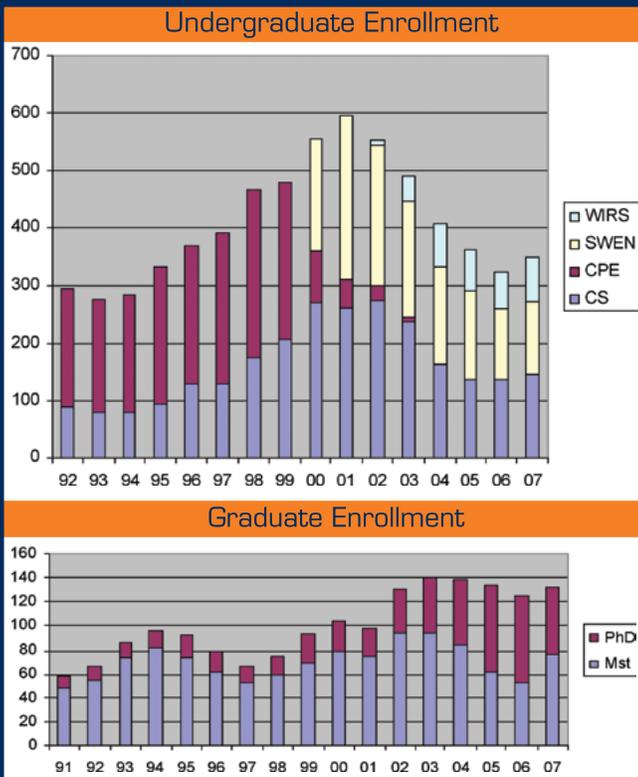


Qin

After serving Auburn University for ten years, **Gerry Dozier** left Auburn to become the department head of computer science at North Carolina A&T University. Although we are sorry to lose a world-renowned scholar in genetic algorithms and to see a dear friend leave us, this position is a great career advancement. Congratulations, Gerry.

Enrollment numbers

The information technology (IT) profession has suffered a public perception setback in recent years. Many high school students and their parents have heard from the news media that many IT-related jobs have been outsourced overseas. This image problem has caused the enrollment in all IT-related fields, including computer science and software engineering, to plunge. This phenomenon is not unique to Auburn, but is universal throughout the country. Although academia and the IT industry understand that this is ill-informed, it will take a few years for the truth to be filtered to pre-college students and their parents. According to ten-year (2004 – 2014) U.S. job opening projections from the Bureau of Labor Statistics, there will be more than 90,000 openings for software engineering-related jobs, far more than other engineering disciplines. The next highest will be electrical engineering with fewer than 30,000 openings. The attached charts depict the undergraduate and graduate enrollment trends in CSSE for the past few years. We hope that the downward enrollment trend will be reversed starting fall 2007.



Extramural research funding

S. Biaz (PI), Kai Chang (Co-PI), REU Site for Pervasive and Mobile Computing, NSF, \$299,000, 05/2006 - 05/2009.

To host 10 undergraduate students each summer at Auburn to research pervasive and mobile computing.

S. Biaz (PI), P. Agrawal (Co-PI), N. Vaidya (Co-PI), 4G Wireless Engineering Sandbox, NSF, \$ 333,000, 10/2004-09/2008,

To design hands on laboratory exercises for wireless network courses at Auburn University and the University of Illinois at Urbana-Champaign.

S. Biaz (PI), Ad Hoc Congestion Control for Ad Hoc Networks, NSF, \$ 231,000, 09/2004- 08/2008.

To develop a novel idea for network congestion control.

K. Chang (PI), S. Biaz (Co-PI), C. Lee (Co-PI) and Y. Wang (Co-PI), GAANN: Graduate Fellowships in Wireless Technology, DoEdu, \$462,288, 08/15/2003 – 08/14/2007.

To encourage U.S. citizens to pursue doctoral studies in wireless technology.

K. Chang (PI), A. Lim (Co-PI), S. Biaz (Co-PI), J. Gilbert (Co-PI), and Y. Wang (Co-PI), GAANN: Doctoral Fellowships in Wireless and Mobile Technology, DoEdu, \$383,643, 08/15/2007 – 08/14/2010.

To encourage U.S. citizens to pursue doctoral studies in wireless and mobile technology.

R. Chapman (PI), J. Hamilton (Co-PI), D. Umphress (Co-PI), C. Wu (Co-PI), Crouse (Co-PI). Wireless Data Dissemination from Army UAV's. US Army Aviation and Missile Command, \$241,000, 10/06-9/07.

To simulate dissemination of UAV payload data wirelessly to tactical units, bypassing ground control station.

R. Chapman (PI), J. Hamilton (Co-PI), D. Umphress (Co-PI), C. Wu (Co-PI), Riggs (Co-PI). Wireless UAV Communications, US Army Aviation and Missile Command, \$299,000, 10/06-9/07.

To develop wireless communication system for army tactical UAV ground systems.

J. H. Cross (PI), T. D. Hendrix (Co-PI), and D. A. Umphress (Co-PI), jGRASP: A framework for Integrating Visualizations of Software, NSF/CCLI-EMD, \$399,855, 04/2005 – 03/2008.

To add dynamic data structure viewers to jGRASP, a lightweight development environment created specifically to provide automatic generation of visualizations to improve the comprehensibility of software.

J. Gilbert (PI), Prime III: Studying Usability & Security in Electronic Voting for Everyone, NSF, 09/2007 – 08/2008, \$84,296.

J. Gilbert (PI), C. Seals (Co-PI), G. Dozier (Co-PI), and J. Jackson (Co-PI), BPC-DP: African-American Researchers in Computing Sciences (AARCS), NSF, 3/2006 – 3/2009, \$397,288, AU Share: \$306,473.

J. Gilbert (PI), L. Flowers (Co-PI), J. Moore (Co-PI), and B. Watford (Co-PI), ITWF: Scholars of the Future: An Implementation Model for Increasing Diversity in Information Technology, NSF, 9/2004 - 9/2008, \$754,983, AU Share: \$549,731.

J. Hamilton (PI), K. Chang (Co-PI), DOD Information Assurance Scholarship Program, NSA, 09/2006 – 09/2008, \$105,902

J. Hamilton (PI), K. Chang (Co-PI), DOD Information Assurance Scholarship Program, NSA, 08/2007 – 08/2008, \$211,870

J. Hamilton (PI), Software Anti-Tamper Testbed, RAM Lab, 08/2007 – 05/2008, \$21,000

J. Hamilton (PI), MDA Vulnerability Analysis, Missile Defense Agency, 10/2006-09/2007, \$100,000

To study simulation software vulnerabilities

J. Hamilton (PI), DOD Information Assurance Capacity Building for Auburn University, NSA, 09/2006 – 12/2007, \$30,000

To conduct outreach at Redstone Arsenal and for new curriculum development

J. Hamilton (PI), **K. Chang** (Co-PI), G. Dozier (Co-PI), **Y. Wang** (Co-PI), **J. Gilbert** (Co-PI), SFS: Scholarship Partnership with Alabama State University and Tuskegee University, NSF, 09/2006 – 09/2009, \$1,500,000

J. Hamilton (PI), **K. Chang** (Co-PI), G. Dozier (Co-PI), **Y. Wang** (Co-PI), Collaborative Research: Building Information Assurance Education Capacity with Alabama State University Proposal, NSF, 09/2005 – 09/2007, \$100,000

A. Lim (PI), **L. Yilmaz** (Co-PI). Decision Support under Uncertainty using Exploratory Multisimulation with Multiresolution, Multistage Multimodels, Air Force Research Laboratory, \$121,647, 07/2006 - 6/2007.

To explore proper simulation-based, decision support methodologies and improve modeling courses of action.

A. Lim (Co-PI), H. Chan (PI), Wireless Imaging Sensor, DARPA, STTR, \$75,000, (Auburn share \$30,000), 09/2007-08/2008,

To introduce and validate the design of a wireless imaging sensor to provide video feedback of the battlefield as well as the surveillance of important assets.

D. Marghitu (PI), Elizabeth Zylla-Jones (Co-PI), Computer Literacy Academy for Children (dealing with disabilities), The Alliance for Access to Computing Careers, \$5,000, 01/2007 – 12/2007

To provide computer camp opportunities for typical and special needs children.

N. Narayanan (PI), Investigation of a Cognitive Model of Driver Workload and Interaction with Telematics, Electronics & Telecommunications Research Institute, South Korea, \$89,999, 2007-08.

To develop a cognitively based computational model of driving while engaged in distracting tasks such as talking on a cell phone or interacting with navigation and entertainment devices in an automobile.

N. Narayanan (PI), C. Hundhausen (Co-PI, WSU), and M. Crosby (Co-PI, Hawaii), CPATH CB: Exploring Studio-Based Instructional Models for Computing Education, NSF, \$546,619, 2007-09.

To implement and evaluate a new way of teaching and learning computing concepts at three universities in a coordinated fashion over two years.

X. Qin (PI), T.Xie (Co-PI) and P. Lichtner (Co-PI), BUD: A Buffer-Disk Architecture for Energy Conservation in Parallel Disk Systems, NSF, \$299,999, 05/31/2007 – 04/30/2010

To develop energy conservation techniques that will provide significant energy savings while achieving low-cost and high-performance for parallel disks.

C. Seals (Co-PI), T. Dahlberg (PI), T. Barnes (Co-PI), **J. Gilbert** (Senior Personnel), BPC-A: The STARS Alliance: A Southeastern Partnership for Diverse Participation in Computing, NSF, 3/2006 – 3/2009, \$2,000,000, AU Share: \$235,075

C., Seals (PI – AU), Johnson, J., Hulbe (PI), C., Henry (Co-PI), J., Barrett (Co-PI), M. Tulaczyk(Co-PI), S. Deascu (Co-PI), IPY: International Polar Year: ASEP Modeling, NSF, 4/2007-4/2010. \$500,000, AU Share: \$90,000.

To invigorate polar science by conducting critical research on an unprecedented scale while achieving broad educational and outreach goals.

D. Umphress (PI), SALTmind: An in, Vertex, Inc., \$18,500, 01/2007 – 02/2007

To develop prototyped software for calculating sales and use taxes based on statistical models of state and local tax laws.

D. Umphress (PI), Using spam technology to model real-time information prioritization, SAIC, \$26,000, 08/2007 – 12/2007

To examine how to automate the contextualization and categorization of message traffic within a large military operations center.

L. Yilmaz (PI), The Synergy of Conflict and Creativity in Open Source Software Development Communities, NSF, \$76,450, 8/2007 - 8/2008.

To develop simulation models of open source software communities for the purpose of investigating the impact of various conflict management mechanisms on innovation output.

Wireless Network Simulation

As noted by Sen. Richard Shelby (R-AL), “The Unmanned Systems Initiative (USI) will conduct research and development of unmanned systems to advance, evaluate and rapidly mature technologies to meet urgent warfighter needs as well as the optimal tactics, techniques and procedures to employ unmanned systems capabilities. Unmanned systems have immense potential to reduce engagement timelines while improving survivability in difficult urban terrain. Acceleration of the transition and fielding of these robotic technologies and capabilities is a critical wartime effort.”

Auburn University, through the Army’s Aviation and Missile Research, Development and Engineering Center (AMRDEC) has been supporting the USI program in three research areas related to UAV ground control:

- Use of commercial wireless technologies to provide secure, realtime video communication between UAV ground elements.
- Assessment and evaluation of appropriate wireless security measures.
- Development of a high fidelity modeling and simulation testbed to support the USI program.



Chapman



Auburn UAV research team with UAV from the 101st Airborne Division at Redstone Arsenal. From left to right: Alan Hunt, Kevin Richardson, Shawn Constance, Daniel Box, Drew Hamilton, David Umphress and David Last.



Hamilton

Auburn is well qualified to undertake this research. Auburn’s wireless engineering program was the first in the United States to be accredited by ABET – the Accreditation Board for Engineering and Technology. Auburn has twice been designated as and is currently a National Center of Academic Excellence in Information Assurance Education by the National Security Agency and the Department of Homeland Security. Finally Auburn University has been elected part of the international McLeod Institute for Simulation Science based upon the peer review of twenty-seven universities from Europe, Asia and North and South America. Richard Chapman is the principal investigator on the project, with Drew Hamilton and David Umphress as co-principal investigators.



Umphress

Soldiers in the UAV platoon communicate with the UAV at a control station, which is connected to a base station antenna on the ground, utilizing more than 400 feet of various cables. The antenna at the base station relays control information to the UAV in the air and receives video signals from the UAV. One major problem with this setup is the time required to set the system up and take it down. Time is wasted running cables between the control station and base station. Since the UAV system creates such a large radio footprint, the platoon is always at risk of the enemy determining the base station location through triangulation. Therefore, the platoon must be able to quickly tear down the system and move to another location.

The task of the research group was to replace the cables connecting the control station to the base station with a secure wireless network. Work is currently being done on the Shadow 200 UAV model, but this technology may later be applied to other UAV models as well.

Election Technology Research



Gilbert

In 2005, the Human Centered Computing Lab at Auburn University created the first version of Prime III. Prime III is an electronic voting system that offers a secure, open-source, multimodal electronic voting system that delivers the necessary system security, integrity and user satisfaction safeguards in a user friendly interface that accommodates all people regardless of ability. Essentially, if one is illiterate, cannot see or hear or has a physical disability, they are still able to vote using Prime III in a private, secure environment without assistance. Prime III is incorporated into the current process that the voter is accustomed to using. Juan Gilbert is the principal investigator on the project.

The voting process begins when the voter enters the voting precinct and is verified using the standard procedures in each precinct/state. When the voter enters the voting area, he or she will be assigned a voting booth by a poll worker. The poll worker initiates the Prime III session and the voter cast his/her ballot unassisted! Voters can cast their ballots using touch and/or voice. Prime III uses a uniquely designed touch screen that allows sighted voters to easily cast their ballots by simply touching their selections. Prime III uses a headset with a microphone to allow voters to privately cast their ballots using their voice. Voters that use the headset to vote will receive prompts that speak the ballot options currently displayed. Each option is randomly assigned a number. If the choices are democrat, republican, or green party, Prime III will prompt the user with something similar to “To vote for the democratic party, say four <beep> to vote for the republican party, say three <beep> to vote for the green party, say two <beep>”. The voter will simply speak the number associated with her/his choice. As such, eavesdroppers will hear a voter speaking numbers with no indication of the voter’s choices.

From a security perspective, Prime III uses multiple encryption schemes to securely store each ballot amongst several encrypted imposter ballots. This makes modifying the actual ballots more difficult. Furthermore, each Prime III machine is attached to two separate video recorders that capture all the interactions that occur on each machine. The video is directly connected to

each machine; therefore, the voters' identity is not captured on the video. This is video surveillance of the software, not the voter. The video provides a voter-verifiable video audit trail (VVVAT). Together, Prime III's usability and security create a usable security model that uses election administration and training to create a secure, yet easy to manage election process.

jGRASP: Teaching hard concepts with intuitive visualizations

CSSE faculty members **James Cross**, **Dean Hendrix** and **David Umphress**, and chief programmer Larry Barowski continue their National Science Foundation-supported development of jGRASP, a lightweight IDE that provides automatic generation of visualizations that directly support the teaching of major concepts in CS1 and CS2. These concepts include control structures, classes, interfaces, objects, inheritance and polymorphism, composition and data structures. The integrated visualizations are intended to overcome the mismatch between what faculty want to teach and what most IDEs provide in the way of support for learning. jGRASP continues to grow in popularity with more than 120,000 downloads in the past 12 months.

The UML class diagram in Figure 1 was automatically generated for a typical binary tree program. In Figure 2, an object viewer has been opened on bt, an instance of BinaryTree in the main program. The viewer shows that three elements have been added to bt and that a fourth element 3 is about to be added. Figure 3 shows bt just after the links have been set for the local node 3 and the node has become part of the data structure. This transition is animated in the viewer, showing the node sliding up into the tree. Actually seeing a node inserted into an instance of their own binary tree class makes the process and result of invoking the add method crystal clear to all levels of students.

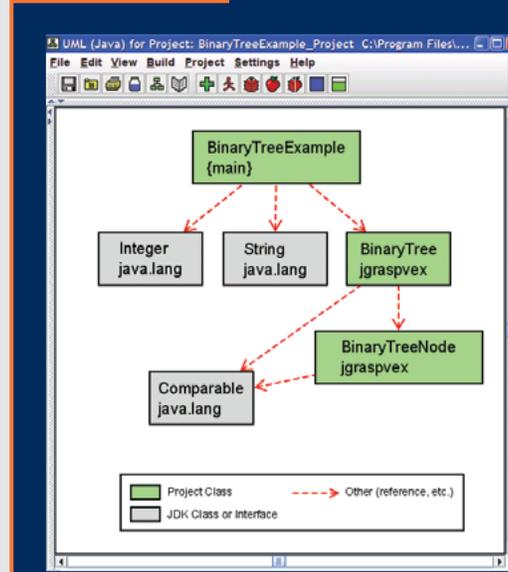


Figure 1. UML class diagram for the project BinaryTreeExample.

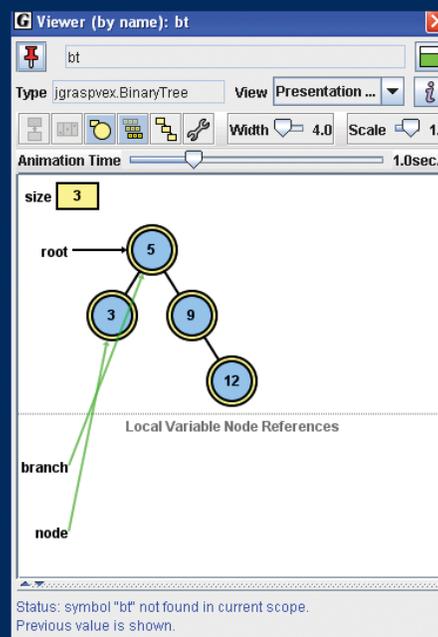
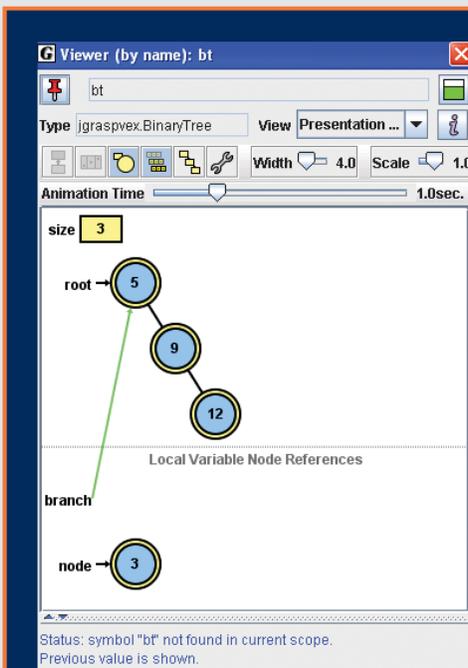


Figure 2. (on left) Object view after local node "3" has been created and is about to be added to the binary tree.

Figure 3. (on right) Object view after "3" has "moved" into the binary tree and prior to size being updated.

Awards and Honors

CSSE students awarded in speech application contest



McMillian, Rouse and White

The team of **Yolanda McMillian**, **Kenneth Rouse** and **Jamey White**, graduate students in the Department of Computer Science and Software Engineering, has been chosen as the first runner up and best-of-class winner of the First AVIOS Speech Application Contest. Their application, "Speech Enabled Message Board for Disaster Victims," received high scores from the judges in the areas of usefulness, technical superiority, user friendliness and innovation.

The team received an award of \$500. They were officially recognized in the AVIOS Keynote Presentation at SpeechTEK West in San Francisco on Friday, February 23, and on the AVIOS web site, with a description of the application and the phone number

that can be called to try the application. The description and phone number will remain on the company's site for the next calendar year.

Wireless design award

Auburn wireless engineering senior design students for spring 2007 won first prize for the United States Region in Cypress Semiconductor's Innovator Design Challenge. The prize, which carries a \$10,000 prize for the student design team and \$10,000 for the university, goes to a design that demonstrates new and novel ways to utilize Cypress Technology. The student team designed a wireless system for scoring Olympic fencing matches, using

Cypress' Programmable Radio on a Chip (PRoC) product. Currently, fencers must be tethered to a glitch-prone wired scoring system that has not fundamentally changed in many years. The Auburn student team's system eliminates all the wires, giving fencers greater freedom of mobility, as well as a more reliable system.

These three students also won the undergraduate poster award in the 2007 Vodafone Symposium, sponsored by the Vodafone Foundation. Participants



Team members (left to right): Kevin Harwood, Steven Routh, Ryan Northington

came from three universities with strong wireless engineering programs: the University of California - Berkeley, the University of Illinois - Urbana-Champaign and Auburn University.



College of Engineering Award Recipients

At the spring 2007 College of Engineering Award Reception, the following CSSE recipients were recognized (from left to right): Daniel Dixon – outstanding software engineering student, Mark Spencer – outstanding alumni, Jeff Wang – outstanding computer science student, and David Umphress – outstanding CSSE faculty member.

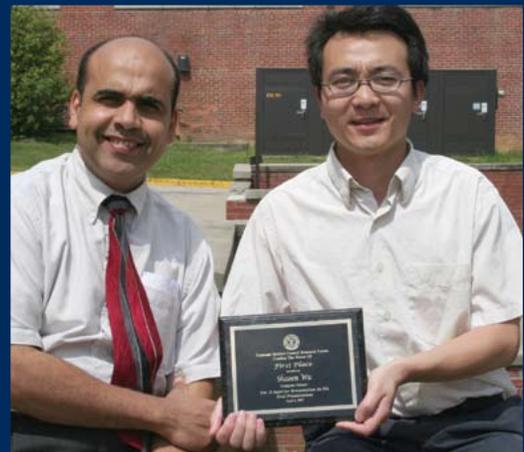
Undergraduate research fellowship award

Tim Gilino, a CSSE undergraduate double-majoring in computer science and psychology, is among this year's recipients of the Auburn University Undergraduate Research Fellowship. This fellowship program, administered by the Office of the Vice President for Research requires applicants to propose a research project with faculty mentorship and undergo a rigorous selection process including personal interviews. Gilino will receive a stipend, project funds and travel support of more than \$5,000 for a one year research project titled "Applicability of Neural Networks in Modeling Human Decision Making." Human decision making has been extensively studied by experimental psychologists, whereas neural networks are used in computer science for optimization and learning. The goal of Gilino's research is to develop neural networks that not only model but also predict human judgments and decision making behaviors. His research mentors are N. Hari Narayanan, professor in CSSE, and Ana Franco-Watkins, assistant professor in psychology.



Bradley

In the **2007 Graduate Research Forum**, two CSSE graduate students received awards (out of 136 participants over two days). **Shaoen Wu**, engineering first place winner, and **Mitchell Bradley**, proposals second place winner. They were recognized in the spring awards picnic on April 4 at the arboretum.



Wu (right) and advisor Saad Biaz.

The Auburn University Summer Computer Literacy Academy for Children

In a world where computer literacy is increasingly important, Auburn is making a difference in the lives of our children. Through the computer literacy academy for children dealing with disabilities, CSSE's Daniela Marghitu, is doing her part to provide children with solid computer skills at an early age. Focusing specifically on children with disabilities, Marghitu launched the Computer Literacy Academy for Children in 2005. This free, multidimensional



Marghita with graduate students from CLA

computer literacy pilot program is designed to enhance computer knowledge for special needs children.

“Computers are conducive to learning for all children, particularly children with special needs, because the pace can be adapted to the children’s response level,” says Marghita. “I love to see the children having so much fun that they don’t even realize how hard they are working and how much they are learning.”

The program adds more advanced concepts each year and this year’s curriculum was specifically chosen to focus on increasing computer and communication skills such as grammar, following directions, sequencing and reasoning. The children also learned basic computer programming with the Carnegie Mellon University Alice Programming System and robotics with Lego Mindstorms software. Funding for the program was provided by the Auburn University Breeden Endowment and the international Disabilities, Opportunities, Internetworking and Technology (DO-IT) Center.

“I hope to receive greater support from sponsors and partners so we can accept more children,” says Marghita. “We had more than 80 applicants this summer, but we were only able to accept 26 children. Maybe in the future, we can change that.”

CSSE Industrial Advisory Board scholarship endowment

Before fall 2007, CSSE was the only department in the College of Engineering that did not have a scholarship designated to its incoming freshmen. In 2007 we made a small first step. In its fall 2006 meeting, the CSSE Industrial Advisory Board (IAB) set up the Auburn University CSSE Industrial Advisory Board Scholarship. The seven board members attending the meeting contributed \$6,750 as the seed money for the scholarship. The board decided to offer two \$500 scholarships to 2007 incoming freshmen. In spring 2007, two scholarships were offered and one student accepted the offer. At the fall 2007 meeting, the IAB further decided to offer three scholarships to 2008 freshmen (with one award from the 2007 fund).

The university set up an endowed scholarship fund with the remaining money. The requirement for an endowment is to have a minimum of \$25,000. At this moment, our CSSE IAB scholarship endowment balance is at \$5,750. If the endowment does not reach \$25,000 by 2012, the fund will be merged into the Engineering general endowment. We certainly don’t want to see that.

While CSSE is the new kid on the block in the college, I believe our alumni can help contribute to this endowment to attract the best and the brightest students.

I am therefore asking you to support this effort. If you choose to contribute, the attached envelope can be used for this purpose. Please note that Auburn policy requires all contributions be channeled through the College of Engineering’s Development Office.

Those who contribute \$1,000 or more will be recognized by the Engineering Eagles Society. Associate Eagles designation is also available to encourage young alumni to become society members. Associate Eagles are required to give \$500 and may remain at this level until they pass the 10-year mark.

War Eagle!

Alumni Reports

Glenn Phillips is president and founder of Forte' Incorporated and LifeTrac Technologies. He directs operations at each firm, including sales, marketing, finances, customer service, staffing, strategic alliances and management.

Forte' specializes in custom software and database systems in a variety of industries around the country. LifeTrac Technologies is focused on life-saving data and communication technology that improves the routing of critical trauma, stroke and cardiac patients to hospitals. The system also provides assistance during mass casualty incidents and biological and chemical events, including terrorism.

Forte' was selected as a Microsoft's 2006 Partner of the Year and the firm won national innovation awards for work in homeland security and healthcare from Harvard University, Mitretek System and the Microsoft Healthcare User Group. Forte' has also been recognized by the Birmingham Business Journal as winner of the Best in Business Award. Individually, Phillips has been honored by the Birmingham Business Journal as Healthcare Hero Innovator of the Year and Top 40 under 40. In 2005, the Auburn Alumni Engineering Council named Phillips the Outstanding Young Auburn Engineer.

Prior to founding Forte', Phillips served various roles at Computer Utilization Services Corporation and National Microsystems, Inc. Phillips earned a bachelor's degree in computer engineering from Auburn, and he currently serves on the advisory board for the Department of Computer Science and Software Engineering at Auburn, as well as on the Leadership Council for the University of Alabama at Birmingham Department of Computer and Information Sciences. Each fall, Phillips typically plays the ugliest tuba in the Auburn Alumni Marching Band.

Dale-Marie Wilson is an assistant professor in the computer science department at the University of North Carolina at Charlotte. She is a faculty member of the Future Computing Lab, whose research encompasses a broad range including, but not limited to, human-computer interaction, virtual environments, computer game design and artificial intelligence. Wilson's research focuses on multimodal interfaces with an emphasis on conversational user interfaces.

Wilson received her bachelor's degree from New York University in 1995. While there, she majored in mathematics and minored in computer science. Upon graduation, she was employed by the software firm, Sigma Computer Services, LLC. She started off as an administrative assistant but quickly rose through the ranks to become a programmer. There she worked on software that assisted brokers in completing loan processes.

In 2001, Wilson started graduate school at Auburn, where she received both her master's and doctoral degrees. While at Auburn, Wilson was very active in the community, heading the Tallapoosa Assistance Program (TAP), a program that provided tutoring and mentoring for high school students whose rural Alabama school had been placed on academic probation. She was the recipient of the Outstanding Minority Award in Engineering in 2005.

Now a resident of Charlotte, N.C., Wilson continues to give back to her community. She is an active member of the local parent-teacher association and will soon be named the faculty advisor to a high school program sponsored by the Black Data Processing Association (BDPA).

Information Needed

The department likes to use this newsletter as a communication mechanism that posts the latest status of its alumni, friends and constituents. Please send brief information about yourself to any of the CSSE representatives in the contact information section at right.



Phillips



Wilson

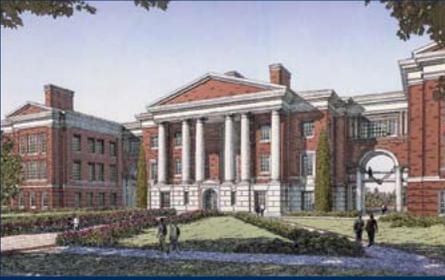
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Shelby Center integral to the future of Auburn Engineering

The construction of the new Sen. Richard C. and Dr. Annette N. Shelby Center for Engineering Technology is progressing steadily, with the completion of the first phase anticipated in fall 2007.

The \$108 million complex is the cornerstone of the college's vision to become one of the top public engineering institutions in the country. The center will enable Auburn Engineering to recruit world class faculty, compete for the best and brightest students, and conduct innovative research.

Phase I will house the departments of Computer Science and Software Engineering and Industrial and Systems Engineering, with Phase II consisting of a new Mechanical Engineering Building and an Advanced Research Laboratory Building. The entire complex will boast modern classrooms, lecture halls and general and specialized laboratories to support a variety of disciplines. Students and faculty from every department will benefit from these technologically advanced facilities.

Sen. Richard Shelby's efforts helped secure \$65 million for the project. In addition to funding from revenue bonds and other university funds, the college is committed to raising \$15 million in private support to ensure the completion of the complex.

The support of our alumni and friends for the Shelby Center for Engineering Technology will enable Auburn Engineering to create a progressive learning and research environment that keeps pace with the emerging disciplines of today's engineering fields.

For more information on contributing to the Shelby Center for Engineering Technology, contact the Office of Engineering Development at 334.844.2736 or www.eng.auburn.edu/shelbycenter.

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www.eng.auburn.edu/csse

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