The Computer Science and Computer Engineering (CSCE) Department at the University of Arkansas, the flagship campus in the University of Arkansas system, offers high quality undergraduate and graduate computer science and computer engineering degree programs. CSCE has 17 faculty members, including four endowed chairs and two NSF CAREER awardees. Our programs are growing rapidly to meet our state’s and society’s needs for talented professionals in computing technology in both hardware and software. Our PhD programs grow at a very fast pace and CSCE PhD student enrollment has more than doubled from 19 in 2010 to 44 in 2015, representing a one hundred and thirty-two percent increase. Our undergraduate student population has also increased seventy percent from 257 in 2010 to 438 in 2015. The growth in our PhD program is especially encouraging. The growth of our PhD programs is supported by expanded sponsored research programs in the department. For example, CSCE received five NSF grants for the past two months. Several of our sponsored projects in the areas of big data, vision systems for autonomous vehicles, cyber manufacturing, and computer science education are featured later in this newsletter. In particular, I would like to share an exciting grant news that Prof. Dale Thompson at the Computer Science and Computer Engineering Department leads an effort on an almost $1 million NSF grant entitled Training Arkansas Computing Teachers (TACT). This grant will be used to train approximately 50 high school teachers to teach computer science in Arkansas high schools. It received an excellent commendation from Arkansas Governor Asa Hutchinson. Governor Asa Hutchinson and the General Assembly of Arkansas made a commitment to expanding classes that teach technology and computer coding in high schools. Earlier this year the legislature in Arkansas approved Act 187, which requires all public high schools and charter schools in the state of Arkansas to offer classes in computer science. It will generate significant interests among high school students in Arkansas and lead to significant growth in undergraduate enrollment in computer science and computer engineering programs in the state of Arkansas in the future. Our department is excited about the growth prospect of our academic programs due to Act 187 and is well positioned for this growth opportunity as the computer science and computer engineering department in the flagship campus in the state of Arkansas. In addition, the University of Arkansas in Fayetteville is striving to become a top 50 public research University by 2021. College of Engineering (CoE) developed an aggressive strategic plan to achieve this goal. CSCE expects to grow its academic and research programs significantly and expand its faculty resources by 2021 under the CoE’s strategic plan. We are going to add two faculty members starting in Fall 2016. Our students are excellent and they made many academic achievements for the past year. For example, several students, as co-authors, along with their advisors, won two best paper awards in two international conferences respectively. Let’s work together to develop an excellent Computer Science and Computer Engineering Department in the University of Arkansas in Fayetteville.

John Gauch, professor of computer science and computer engineering, received the Imhoff award for teaching. Gauch uses innovative approaches to teach introductory programming courses, as well as other undergraduate and graduate classes. Gauch has developed an online version of Programming Foundations I to reach students at community college around the state, and he represented the U of A at the Arkansas STEM Coalition’s “Think Tank for Computer Science Education” and serves on the Arkansas Department of Education’s committee to develop computer science classes for high school and middle school students.

• Teaching Award: Michael Gashler
• Service to students Award: Wingning Li
• Research Award: Matthew Patitz
STUDENT HIGHLIGHTS AND ACTIVITIES

OUTSTANDING SENIORS SPRING 2015

Taylor Martin Outstanding Senior in Computer Engineering - graduated with a minor in mathematics and a 3.8 GPA. She was a peer mentor for the College of Engineering for 3 years, has talked with prospective students at CSCE open houses and helped with High School Programming Competitions. Martin was recognized as a University of Arkansas Senior of Significance. She worked with a team on a capstone project to create a service for students with food allergies to use in dining halls on campus. Martin interned with J.B. Hunt, GE Healthcare and Wal-Mart and joined Wal-Mart full-time after graduation.

Austin Brown Outstanding Senior in Computer Science - was a member of the National Society of Collegiate Scholars and achieved a 3.9 GPA. He was involved in the Association for Computing Machinery and the National Society of Professional Engineers. Brown received several competitive scholarships, including the George W. Swilley Memorial Scholarship. Last year, he worked on a semester long project to produce a search engine based on a static document set. Brown interned with Cerner Corporation in Kansas City last summer and joined them full-time after graduation.

ACM SECOND ANNUAL HACKATHON

On April 10 and 11, 2015, ACM hosted their Second Annual Hackathon. Over 30 students attended the event. A hackathon is an event in which computer programmers collaborate intensively on software projects.

J.B. Hunt presented the theme for this year's hackathon. Students had 22 hours to work on an web application or phone application that can help J.B. Hunt drivers, recruits, office and customers.

Students competed in teams of one to four, attempting to design a project. Teams' demos were judged by J.B. Hunt representatives on several criteria including creativity, usability, functionality, and presentation.

Team "And in second place is", consisting of Lucas Dorrough, Matthew Luther, and Cory McDonald, took home first place and a set of Raspberry Pis.

Team Warriors, consisting of Lei Shi and Ashvin Someshwar, took second place and a set of Google chromecasts.

Team Bruno, consisting of Tarcisio Bruno Carneiro Oliveira, took third place and a 32GB flash drive.

BEST PAPER AWARDS

Congratulations to Computer Science and Computer Engineering students Michael Metzner, Jesus A. Lizarraga, and associate professor Dr. Christophe Bobda for a best paper award at the 11th International Symposium on Applied Reconfigurable Computing to be held in Bohum, Germany from April 15 to 17, 2015.

The paper, Architecture Virtualization for Run-Time Hardware Multithreading on Field Programmable Gate Arrays, presents a novel virtualization architecture for FPGAs which allows for unrestricted communication among hardware tasks running on the device.

The architecture combines direct interconnection for high-performance at local level within a task's boundary, while using reduced overhead network-on-chip for global communication beyond component boundary. The architecture is based on a quadratic router access mechanism that drastically reduces the number of routers, thus leading to short communication paths and reduced resource overhead.

In this work, they address the inefficient resource usage with a novel class of routers than can be dynamically recycled as computing resource in modules in the boundary of which they are placed at run-time. The viability of their approach is demonstrated with benchmarks in signal and image processing, which shows a performance difference between applications running on raw FPGAs and the same applications running on the virtualization layer.

Congratulations also to assistant professor Matthew Patitz and graduate students Trent Rogers and Jacob Hendricks (who has now graduated and is working as an assistant professor at the University of Wisconsin-River Falls starting this fall) received the Best Paper award at the 7th International Conference on Machines, Computations, and Universality, hosted at the Eastern Mediterranean University in Famagusta, North Cyprus in September.

Their paper, titled "The Simulation Powers and Limitations of Higher Temperature Hierarchical Self-Assembly Systems", explored the relative powers of classes of hierarchical self-assembling systems and further refined several of their previous results related to intrinsic universality in such systems. This and related work by their Algorithmic Self-Assembly and Natural Computing group has begun to create a complexity hierarchy for self-assembly systems across a variety of theoretical models and has helped to give guidance to experimental collaborators implementing DNA-based self-assembling systems.
This research will enable manufacturing and distribution companies to optimize indoor transportation activities in existing arrangements, without followed with an FPGA-based target platform from a previous NSF-Funded project.

To address the complexity of image processing tasks, a hardware/software implementation is mounted on AGVs. Multi-truck coordination is then framed as the problem of routing packets in a dynamic and hierarchical network where cameras occur in production facilities. The approach uses a set of distributed ceiling-mounted smart cameras with overlapping fields-of-view, and cameras enable autonomous mobile robot applications in numerous other unstructured environments, including: hospitals, malls, retail stores, critical infrastructure, airports, schools, and sports venues. The project is conducted as a joint effort between the University of Arkansas in Fayetteville and R-DEX Systems in Atlanta, and will provide undergraduate and graduate students' opportunities to perform their work in academic and industrial environments.

Arkansas Gov. Asa Hutchinson signed Act 187 into law this year, requiring computer science courses to be taught at all Arkansas public high schools and charter schools. Arkansas is the first state to mandate computer science education.

“I applaud the University of Arkansas for leading in this effort and supporting my computer science initiative,” Hutchinson said. “Over the next three years, Arkansas’ schools will have 50 new teachers trained and licensed to prepare students for careers in computer-related fields. The National Science Foundation’s $1 million grant will provide valuable opportunities for our educators and our students. Thanks to the dedicated efforts the General Assembly and our educational communities, Arkansas continues to lead the national coding movement.”

Thompson and Bryan Hill, assistant dean for student recruitment and diversity, honors and international programs in the College of Engineering, will serve as administrators for the program. They will work closely with the Honors College’s Advance Placement Summer Institute and UTeach, a program that combines in-depth science and mathematics education with teacher preparation. UTeach is a partnership between the J. William Fulbright College of Arts and Sciences and the College of Education and Health Professions, addresses the shortage of secondary mathematicians and science teachers in Arkansas.

The Training Arkansas Computing Teachers program will offer in-service training for existing high school computer science teachers by expanding the Honors College Advanced Placement Summer Institute to include a new Computer Science Principles Course. Additional teachers interested in computer science licensure will attend a summer “boot camp” prior to joining the Advanced Placement Summer Institute. Pre-service training will be offered to students going through the UTeach program.

Christophe Bobda received an NSF award to conduct research in vision systems for autonomous vehicles. Vision systems are an essential part of industrial trucks, also known as Automated Guided Vehicles (AGVs). Dr. Bobda’s research will enable AGVs to be controlled in indoor environments without centralized coordination.

AGVs have the potential to revolutionize operations in areas such as manufacturing, product distribution, health care, and military. For example, they can efficiently accomplish the mundane and often repetitive task of transporting materials in distribution centers. They could even be used in nursing homes to move disabled people around. Autonomous robot systems have recently been introduced with Amazon’s Kiva and Seegrid in distribution centers to transport items.

Unfortunately, they are limited to specific and restrictive environments. Generic models, tools, and technologies are missing to actively capture the world with semantically labeled objects, actions and events, and to generate goals, priorities, and plans. Dr. Bobda’s research will address these challenges.

The solutions that Dr. Bobda will investigate address the requirements of decentralized coordination and real-time environmental changes, as occurs in production facilities. The approach uses a set of distributed ceiling-mounted smart cameras with overlapping fields-of-view, and cameras mounted on AGVs. Multi-truck coordination is then framed as the problem of routing packets in a dynamic and hierarchical network where cameras represent routers and trucks represent packets. To address the complexity of image processing tasks, a hardware/software implementation is followed with an FPGA-based target platform from a previous NSF-Funded project.

This research will enable manufacturing and distribution companies to optimize indoor transportation activities in existing arrangements, without modification of available infrastructure, and reduce labor and operating costs by redeploying employees to value-added roles. In addition, AGVs will enable autonomous mobile robot applications in numerous other unstructured environments, including: hospitals, malls, retail stores, critical infrastructure, airports, schools, and sports venues. The project is conducted as a joint effort between the University of Arkansas in Fayetteville and R-DEX Systems in Atlanta, and will provide undergraduate and graduate students’ opportunities to perform their work in academic and industrial environments.
PROTECTING IDENTITIES IN A SEA OF BIG DATA

Recent studies have shown that statistics generated by genomic studies do not completely conceal their participants’ identities.

Xintao Wu, a computer scientist at the University of Arkansas, is working to change that.

Wu will use two National Science Foundation grants totaling $436,713 to build an education framework for genetic privacy protection, collaborating with Xinghua “Mindy” Shi, assistant professor of bioinformatics and genomics at the University of North Carolina, Charlotte.

“How we protect genetic privacy has become a very important and challenging topic as the era of personal genomics is quickly approaching,” Wu said. “Genotype data with attached traits, for example diseases, are very sensitive.”

Wu, a professor in the Department of Computer Science and Computer Engineering, has more than a decade of experience in research and teaching in the area of data mining, data privacy and security, and database application testing. His research group is developing solutions to protect the privacy of human subjects when mining tabular data, social network data, healthcare data and genetic data.

He will collaborate with Shi and with cancer and Alzheimer’s disease researchers at two Houston-based medical facilities – Baylor College of Medicine and MD Anderson Cancer Center – to build a web-based tool to provide researchers secure, reliable and privacy-preserving access to anonymous genomic raw data and statistics.

Wu and Shi will also systematically evaluate potential privacy breaches due to released genomic statistics and analyses. They will design genetic privacy course modules and hands-on projects on privacy infringement and protection to enhance genetic privacy education in computer science, bioinformatics and genomics.

On a third project, the University of Oregon awarded Wu $170,002 from a National Institutes of Health grant to establish privacy preservation techniques for mining individuals’ sensitive biomarker data, physical activities and social activities. The project builds on a database of 500 individuals and develops data mining and big data analysis tools to help understanding the influence of healthcare social networks on sustained weight loss.

Wu holds the Charles D. Morgan/Acxiom Endowed Graduate Research Chair in the College of Engineering.

FRANK LIU RECEIVES NSF GRANT ON CYBERMANUFACTURING

Prof. Xiaoqing “Frank” Liu, Department Head and Rodger S. Kline Endowed Leadership Chair in Computer Science and Computer Engineering (CSCE), was awarded a grant by the National Science Foundation (NSF) to conduct research on architecture and protocols for scalable cyber-physical manufacturing systems. Cyber-physical manufacturing systems have potential to transform manufacturing industry in a significant fashion by sharing manufacturing resources, operating manufacturing machines, and connecting customers with manufacturing resources over the Internet. It integrates networking, embedded computing, control, manufacturing, service and cloud computing technologies to increase manufacturing efficiency and resource utilization.

Despite its promising future, there are many significant challenging issues toward realization of its potentials and its wide adoption in manufacturing industry. One of them is scalability of cyber-physical manufacturing systems. Cyber physical manufacturing systems need to be highly scalable and can integrate capabilities and services of a large number of manufacturing machines and other resources, operate and control them, and make them available to customers worldwide over the Internet. Another issue is network protocols for communicating manufacturing services and controlling manufacturing machines in factory floors over Internet.

In this project, new architectures and protocols for scalable cyber-physical manufacturing systems will be explored to address the above challenging issues. The technology developed in this project is expected to help better connections between manufacturers and consumers, make easier to exchange manufacturing services across organization boundaries, and increase utilization of manufacturing resources and reduce their idling time.

The project is conducted as a joint effort between Prof. Frank Liu in the University of Arkansas in Fayetteville and Prof. Ming Leu and Prof. Maggie Cheng in the Missouri University of Science and Technology.
OUTREACH

HOUR OF CODE

Throughout the week of Dec. 8 2014, 66 computer engineering and computer science students volunteered at elementary schools, teaching kids the basics of writing computer code. Happy Hollow Elementary School, Butterfield Trail Elementary School, and Vandergriff Elementary School participated in the Hour of Code program as part of Computer Science Education Week. Code.org, a national organization that promotes computer science, sponsors this program.

Sarah Stolze, one of the University of Arkansas volunteers, explained why she thought this program was necessary and why she participated. "It's important for kids to understand the basics of how computers work and how to tell computers what to do. Programming, at all levels of skill, is an important foundation for success in any career in the twenty-first century. Additionally, coding teaches kids valuable lessons in logical and analytic problem-solving, which they will use for the rest of their lives, whether or not they continue in the field of computer science and computer engineering."

"I very much enjoy helping to introduce young students to the science behind computers," Stolze said. "If I had I been exposed to the world of coding and computer science at an elementary age, I would probably be a much better programmer than I am now."

Matthew Patitz, assistant professor of computer science and computer engineering, explained the benefits of this program for college students. "Being able to help out with the Hour of Code not only provides excellent experience for the CSCE students, it is also a lot of fun for them. Watching as they figure out how to explain the basic concepts of programming to the kids, I can see them gain a new appreciation for what they've learned and also begin to understand programming in a broader context."

HIGH SCHOOL PROGRAMMING CONTEST

The Computer Science and Computer Engineering Department, along with Acxiom Corp. and the University of Arkansas Chapter of the Association for Computing Machinery (ACM), hosted the annual High School Programming Contest in March 2015. Dr. Wing Ning Li, a professor in the computer science and computer engineering department, led the group that organized and hosted the event.

Thirty teams from eleven schools made up the 123 students and teachers registered for the contest. Teams competed to solve as many programming problems as they could in three hours.

First place went to the team PidgetWidgetKidget from Bentonville High School. Team Ninja Turtles from Fayetteville High School was awarded second place and Team Byte Dat from Bryant High School took third place. ASMSA League of Dapper Gentlepersons received an award for Most Creative and Byte Me from Southside High School was awarded Most Improved. Newcomer awards were presented to Rogers Heritage High School and Rogers High School.

While the students were competing, the high school teacher coaches held a roundtable discussion, exchanging experiences and ideas about the future of computer science education in high schools.
**Lynn Moore** (BS CSEG 1994; MS CSEG 1996) will be inducted to the Arkansas Academy of Computing at the fall 2015 banquet. Lynn received the College of Engineering Young Alumni Award in 2005 and has served on the CSCE Advisory Board since 2004.

In 1999, he co-founded Focus Technologies, LLC with Lance Hankins. Moore serves as the CEO and his duties include client relationships, business development, company operations, and recruiting. He has steadfastly grown the company's clientele which includes an impressive roster of clients that includes JP Morgan Chase, Bloomberg, Tyson Foods, GMAC, AIMCO, Coca-Cola, Microsoft, Verizon, etc. Under the management of Mr. Moore, the company has obtained a reputation as being among the best software development firms in the country. For the past four years, under Mr. Moore's leadership, Motio has continued to excel in developing useful products aimed at streamlining Cognos software, aiding the Cognos user and increasing an organization's bottom line. Motio developed and brought to market four more products to their suite of software solutions: ReportCard (patent pending) - Cognos report analytics and documentation tool; MotioPI Pro - extension of the free tool that enables mass change capabilities; MotioVault - an archive for offloading Cognos content; PersonalIA (patent pending) - enables Cognos to transition between multiple namespaces. Motio was recognized with the 2011 IBM ISV Achievement Award for their innovations in software development and in 2012 was awarded the IBM Partner Achievement Award for their contributions to the Cognos Community.

**Joseph Roblee** (BS CSEG 1990; MBA/TM 2008) will be inducted to the Arkansas Academy of Computing at the fall 2015 banquet. Joseph has built a very successful career, several companies, and several critical software applications that continue to save lives and streamline the workflow processes for a multitude of diverse companies. Since his graduation with a B.S. in Computer Science Engineering in 1990, Joseph has steadily progressed and has made critical improvements to many company’s productivity and bottom line efficiency. Joseph’s contribution to the healthcare space has actually saved lives and increased patient care effectiveness through technology utilization and bi-directional collaboration. Joseph has consulted with numerous state agencies and large health companies to assist with application migration practices regardless if the company or agency utilizes his systems or adapts their own applications. Joseph is driven to help people and companies have a better life through technology. Even though Joseph now lives in Texas, he proudly represents the University of Arkansas and frequently returns to the home office in Fayetteville.

**Rebecca Wilson** (BS CSEG 1992; MBA 1994) was honored as a College of Engineering Distinguished Alumna in April 2015. She has combined her strong technical background and business acumen to benefit local industry. After graduation, she went to work for Tyson foods. During her 19 year tenure there, she rose through the corporation's Information Technology ranks, managing three different groups, a testament to her broad expertise. After investing 2 decades in various IT roles at Tyson Foods, in 2012 she shifted gears to an entrepreneurial mode as a small business owner and Microsoft registered partner. In March 2013, her role as a Microsoft partner led to join Microsoft as an account team member aligned with the world’s largest retailer. She now focuses on partnering with and supporting the largest companies in Arkansas. In addition to her success, Rebecca promotes STEM education for youth and also is a strong advocate for technology careers for women.

**Jeremy Stobaugh** (BS CSEG 2000; MBA 2010) was honored as a College of Engineering Early Career Award in April 2015. Jeremy has had a very successful career that has rapidly increased in responsibilities. He is applying his technical expertise to the benefit of companies within Arkansas. He began his career with Acxiom in 2000 as a Software Engineer. He joined J.B. Hunt in 2007 as an Information Services Manager and he was promoted to Director of Information Services in 2009. Jeremy actively helps the CSCE department by providing input on recruiting, curriculum, and special projects, participating as an alumni in ABET visits, and speaking to student groups. He is also active in community service through his church, youth basketball, and Habitat for Humanity.

Two CSCE alumni, **Ben Onukwube** (BS Computer Engineering 2011) and **Arpita Barua** (BS Computer Engineering 2010) joined the College of Engineering's Young Alumni Advisory Council.
NEW CHAPTER OF ARKANSAS ACADEMY OF COMPUTING DEDICATED TO CSCE

This past spring, as the daffodils were popping out of the ground, a new chapter of the AAoC was springing to life. The University of Arkansas Chapter of the AAoC sprouted with the efforts of a committed inaugural team and the help of U of A CSCE Department staff. After a few months of work, the organization came together in time to hold its first annual meeting and banquet in Fayetteville on April 24th and 25th.

2015 Chapter Inductees:

Inaugural Members: Tracy Black, Charles Blackstock, Steve Brothers, Kim Clower, Gary Dowdy, Rex Eads, Lang Zimmerman

Academic Members: Dr. Bob Crisp, Dr. Craig Thompson

The Chapter's Purpose:

The chapter was formed to recognize the achievements of University of Arkansas Computer Science and Computer Engineering graduates and to provide continuing guidance and support to the CSCE Department of the University of Arkansas, and the needs of its students, while maintaining the integrity of the AAoC, upholding its principles, and contributing to its success.

FACULTY HIGHLIGHT

JIA DI NAMED TO ENDOWED CHAIR

Dr. Jia Di now holds a Twenty-First Century Research Leadership Chair, which includes a $1.5 million endowment. Dr. Di, who joined the College of Engineering in 2004, researches delay-insensitive asynchronous digital integrated circuit design. His work has drawn strong interest from a variety of government agencies and industry organizations. His projects include fundamental research supported by the National Science Foundation and the National Aeronautics and Space Administration, transferrable technologies funded by industry, and national security-related innovations supported by the Department of Defense.

"Retaining our most talented faculty members and providing them with the resources they need is an important part of educating Arkansans to be the next generation of engineering leaders," said John English, dean of engineering.

The chair is endowed by funds from the historic $300 million gift from the Walton Family Charitable Support Foundation.
David Andrews  
Professor, Thomas Clinton Mullins  
Endowed Chair in Engineering  
Embedded systems architectures

Gordon Beavers  
Associate Professor,  
Associate Head  
Logic, Theory of Computation, and graph algorithms

Christophe Bobda  
Associate Professor  
System on Chip design, embedded systems, computer architecture, distributed smart cameras

Jia Di, Professor, 21st Century Research Leadership Chair  
Digital Integrated Circuit Design and Analysis, Asynchronous Circuit Design, Extreme environment Electronics, hardware security

Michael Gashler  
Assistant Professor  
Machine learning, neural networks, dimensionality reduction, predictive modeling, data mining, manifold learning

John Gauch  
Professor  
Digital Image Processing, Digital Video Processing, Computer Vision

Jia Di, Professor, 21st Century Research Leadership Chair  
Digital Integrated Circuit Design and Analysis, Asynchronous Circuit Design, Extreme environment Electronics, hardware security

Miaoying Huang  
Assistant Professor  
Heterogeneous many-core architecture, High performance computing, hardware-oriented security, hardware design

Qinghua Li  
Assistant Professor  
Security and privacy, mobile computing, smart grid, big data, access control

Wing Ning Li  
Professor  
Design automation, design and analysis of algorithms, combinatorial optimization, software reuse, parallel computing

Brajendra Panda  
Professor  
Database Systems, computer security, computer forensics, information assurance

Pat Parkerson  
Associate Professor  
IC and ASIC design, design methodologies, integrated passive components, electronic packaging design, electronic circuits for aerospace applications

Dale Thompson  
Associate Professor  
Security and privacy, computer networking, mobile security

Xintao Wu, Professor Charles D. Morgan Acxiom Graduate Research Chair  
Privacy preserving data mining, fraud detection, anti-discrimination learning, spectral graph analysis

Matthew Patitz  
Assistant Professor  
Nanoscale, algorithmic self-assembly, biomolecular computing, theoretical computer science

Tingxin Yan  
Assistant Professor  
Mobile and embedded systems, cloud-based mobile services, crowdsourcing
RECENT PUBLICATIONS

Books


Book Chapters


Journal Papers


Qinghua Li and Guohong Cao, “Privacy-Preserving Participatory Sensing,” IEEE Communications Magazine, accepted. (Impact Factor: 4.46)

Wei Gao, Qinghua Li, and Guohong Cao, ”Forwarding Redundancy in Opportunistic Mobile Networks: Investigation, Elimination and Exploitation,” IEEE Transactions on Mobile Computing (TMC), accepted. (Impact Factor: 2.912)

Ben Niu, Xiaoyan Zhu, Qinghua Li, Jie Chen and Hui Li, "A Novel Attack to Spatial Cloaking Schemes in Location-Based Services," Future Generation Computer Systems (FGCS), Elsevier, accepted. (Impact Factor: 2.639)


Refereed Conference Papers

Cartwright, Eugene; Sadeghian, Alborz; Ma, Sen; Andrews, David, "Achieving Portability and Efficiency over Chip Heterogeneous Multiprocessor Systems," Proceedings of the 24th International Conference on Field Programmable Logic and Applications (FPL), 2014 24th International Conference on, pp.1-4, 2-4 Sept. 2014


B. Sissons, A. M. Francis, J. Holmes, H. A. Mantooth, and J. Di, “SiGe BiCMOS Comparator for Extreme Environment Applications,” accepted by 2015 IEEE Aerospace Conference


Ben Niu, Qinghua Li, Xiaoyan Zhu, Guohong Cao, and Hui Li, "Enhancing Privacy through Caching in Location-Based Services," the 34th IEEE Conference on Computer Communications (INFOCOM), 2015, accepted. (Acceptance Ratio: 316/1640=19%).

Qinghua Li, Chase Ross*, Jing Yang, Jia Di, Juan Carlos Balda, and H. Alan Mantooth, "The Effects of Flooding Attacks on Time-Critical Communications in the Smart Grid," the 6th IEEE PES Innovative Smart Grid Technologies Conference (ISGT), 2015, accepted.


Ben Niu, Qinghua Li, Xiaoyan Zhu, and Hui Li, "A Fine-Grained Spatial Cloaking Scheme for Privacy-Aware Users in Location-Based Services," the 23rd International Conference on Computer Communications and Networks (ICCN), 2014. (Acceptance Ratio: 105/375=28%)


Leting Wu, Xintao Wu, Aidong Lu, and Yuemeng Li. "On Spectral Analysis of Signed and Dispute Graphs”. Proceedings of the IEEE International Conference on Data Mining (ICDM14), Shenzhen, China, Dec 14-17, 2014. (acceptance ratio 142/727)


The College of Engineering selected Xiaoqing "Frank" Liu to head the Department of Computer Science and Computer Engineering. Liu began July 1. He also holds the Rodger S. Kline Chair in Computer Science and Computer Engineering.

"I am very excited to welcome Dr. Liu to our faculty and to this important leadership position," said John English, Dean of the College of Engineering. "Computer science and computer engineering is a vital and dynamic field and Dr. Liu brings the skills we need to excel in this area."

Liu comes to Arkansas from the Missouri University of Science and Technology, where he served as professor of computer science and associate chair for graduate studies and external affairs in the computer science department. He was interim computer science department chair in 2013. He holds a bachelor's degree in computer science from the National University of Defense Technology in Changsha, China; a master's degree in computer science from Southeast University in Nanjing, China; and a doctorate in computer science from Texas A&M University in College Station.

Liu's research and teaching interests include software engineering, service computing, collective intelligence, web-based argumentation, intelligent systems and software applications. Liu published 128 refereed journal and conference papers and book chapters. He served as principal or co-principal investigator on 26 sponsored research projects and an industrial partnership. He made notable contributions in the areas of on-line argumentation based collaborative decision support, web service discovery and recommendation, software modeling, and software quality and process management.

Liu explained that his objective is "to build and grow a high quality department with an excellent reputation in both teaching and research" by leveraging the support, involvement, and collaboration of the faculty, staff, students, and alumni in the department.