MESSAGE FROM THE HEAD

Dear friends and alumni,

Greetings from UGA's Computer Science Department! This year is an exciting year for our department. The number of our undergraduate enrollments increased from 588 in fall 2014 to 1,114 in fall 2018 (an increase of 90%). Also, the department has close to 150 minors. At the graduate level, enrollment exceeded 195 graduate students. The number of CS generated credit hours has doubled in the last five years to reach 26,618. The department offers the B.S., M.S. with thesis and non-thesis options, and Ph.D. degrees in Computer Science, and its graduates have gone on to prestigious positions in academia, industry, and at private and federal research labs. In addition, the department offers a graduate certificate in cybersecurity and privacy, undergraduate certificate in computing, and an undergraduate certificate in applied data science. A new B.S. in Data Science degree program jointly offered by the Computer Science and Statistics departments was approved in September 2018 by the University System of Georgia.

In spring 2018, the department has hired four new tenure-track faculty members in the areas of: computational science and high performance computing, machine learning, robotics, and hardware security, and is now authorized to hire an assistant professor in cybersecurity to start in August 2019. In addition, the department has hired a lecturer and an instructor in summer 2018 to enhance its teaching mission. Two of the assistant professor positions are funded from UGA President's Hiring Initiative, "Invest in Student Experience."

The recently recruited tenure-track faculty include Drs. In Kee Kim, Sheng Li, Ramviyas Nattanmai Parasuraman, and Le Guan.

I also would like to acknowledge the gracious generosity shown to our department by our Advisory Board. We are especially grateful for the exceptional support, and advice provided to our department by the board. We are counting on the board for continued support to help us move to the next level of academic excellence. Special thanks go to Anne Albright for establishing The Lynn C. and Audrey O. Albright Endowment Fund; to Marty Hahn for establishing The Hahn Family Scholarship Fund; and to Lori Kittle for the Lori Kittle Scholarship Fund.

Dear friends and alumni: Our department needs your support, and input to advance our mission in teaching and research. You are welcome to visit and share your work experience with us. For more information and updates on our department, please visit our website: http://www.cs.uga.edu.

Warm Regards,
Thiab Taha, Professor and Head

NEWLY HIRED FACULTY

The Computer Science Department is Pleased to Announce the Hiring of Four Tenure-Track Assistant Professors in Fall 2018
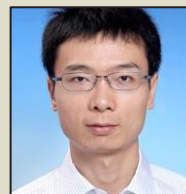

Ramviyas Nattanmai Parasuraman, *Assistant Professor* He received his Ph.D. from Technical University of Madrid, Spain in 2016. His research primarily deals with the challenges of networked and distributed robotics. He is interested in building autonomous heterogeneous robotic vehicles through intelligent and resilient communication and coordination algorithms. He loves to do hands-on real-world implementations and work on field applications of robots. He is also interested in bridging the fields of machine learning and robotics.

In Kee Kim, *Assistant Professor* He received his Ph.D. in computer science from the University of Virginia in 2018. He was a senior research engineer for Ericsson from 2008 to 2012 and led various research and development projects for large-scale telecommunication systems including geo-distributed cluster, HA systems, and Cloud Hosted VoIP. His research areas include cloud computing, distributed systems, IoT/edge, and machine learning systems. His current focus is resource management for emerging cloud infrastructure systems, e.g., serverless and container orchestration.

Sheng Li, *Assistant Professor* He received his Ph.D. in computer engineering from the Northeastern University in 2017, and worked as a data scientist at Adobe Research from 2017 to 2018. He has published over 60 papers at leading conferences and journals. His research interests include machine learning (unsupervised learning, transfer learning and deep learning) with applications to data mining, computer vision, natural language processing and causal inference.

Le Guan, *Assistant Professor* He received his Ph.D. from the University of Chinese Academy of Sciences in 2015. He was employed as a postdoctoral fellow at the Pennsylvania State University. His research interests cover a wide range of systems security, including mobile security and IoT systems security. He is especially interested in leveraging COTS hardware components/features to design and build systems that are more reliable and secure than solutions based on software alone. He found out that while emerging hardware components are primarily designed for performance improvement, they can be leveraged to facilitate security solution development, and the resulting systems are often superior to software-only approaches in terms of efficiency, robustness and more importantly, security.

In addition, we are also pleased to announce that Seyedamin Pouriyeh and Nick Klepp have joined the department as a lecturer and an instructor.

RECENTLY AWARDED GRANTS

It was an exciting summer for the department in terms of grant funding:

Professors Prashant Doshi (PI) and Kyu Lee (Co-PI) received a three-year U.S. Army research grant for the proposal titled: "A Framework for Asymmetric Information Interactions among (Cyber) Defenders and Attackers."

Professor Prashant Doshi received a three-year NSF grant for the proposal titled: "Tractable Decision-Theoretic Planning Driven by Data."

Professor Prashant Doshi and Professor Yi Hong received a three-year NSF grant for the proposal titled: "Robust Inverse Learning for Human-Robot."

Professor Yi Hong received a two-year NSF grant for the proposal titled: "CRII: SCH: Analysis of Population-Based Image Metamorphosis."

DISTINGUISHED PROFESSORSHIP IN COMPUTER SCIENCE

Patty and D. R. Grimes have established a Distinguished Professorship in our department. The CS faculty and staff are very grateful for the generous contribution of Patty and D. R. Grimes' and their support for education and research. We are sure that this will help us move forward with our educational mission to the next level.

DEGREE PROGRAM HIGHLIGHTS

- A new non-thesis M.S. degree in computer science was approved to start in fall 2018.
- 25 doctoral degrees and 49 M.S. degrees were awarded to graduate students in the last three years.
- Recent doctoral graduates have joined University of Texas at Arlington, University of North Carolina at Asheville, and Auburn University among others, as tenure-track faculty.

STUDENT ENROLLMENT AND GROWTH

- Undergraduate enrollment has grown tremendously in the last five years by 90% to 1,114 majors.
- Graduate enrollment has grown by 54% in the last five years to include 195 students.

CS STUDENTS WIN THIRD PLACE AT GSU HACKATHON!

Three students from our department, Omkar Acharya, Akshay Mendki and Ankitkumar Vaghela won the third prize at "HackGSU Spring 2018," a hackathon event organized by Georgia State University and Major League Hackathon. The competition was held from March 23-25 and had 233 students from different universities across the nation.

FACULTY SPOTLIGHT

Prashant Doshi is a professor of computer science with research interests in AI and Robotics, and directs the THINC Lab (http://thinc.cs.uga.edu) situated in the CS department. Over summer 2018, Prof. Doshi received two NSF grants and one DoD grant, totaling approximately $1.5 million over three years. He is the lead PI for these grants and collaborates with colleagues in the CS department. These grants will help significantly advance transformative research in the areas of automated decision making, machine learning, robotics, and cybersecurity, with broader impact toward forming new industry collaborations, augmenting the department's research infrastructure, and training our graduate students in these topics of national importance.

For example, one of the NSF grants is a part of the National Robotics Initiative and is enabling robotic systems to autonomously learn how to perform tasks and deploy this knowledge toward optimally collaborating with humans on the task. The research focuses on well-defined tasks, which are performed on a factory floor and benefit from teamwork, to make pragmatic progress toward human-centered automation. The DoD grant is developing methods for understanding, for the first time, a cyber attackers' beliefs, capabilities, and preferences and how they evolve by engaging and deceiving attackers into intruding controlled systems and accessing obfuscated data. Identifying these mental and physical states not only informs the defender about the attacker's intent, but also guides new ways of deceiving the attacker.

Prof. Doshi in very well known in his areas of research, has published 110 journal and conference papers, and awarded more than five million dollars in grants over his tenure at UGA. Prof. Doshi also received the Creative Research Medal award from UGA.