New faculty hires

Department welcomes three new outstanding professors

Xubin He, professor

Xubin He comes to Temple from Virginia Commonwealth University, where he was professor and graduate program director in the Department of Electrical and Computer Engineering. His research interests include high-performance data storage and input/output systems, big-data management, reliable and high availability storage systems, cloud computing, storage cache and disk input/output and SSDs. He is also the current director of Storage Technology and Architecture Research (STAR) laboratory. He earned his PhD in electrical and computer engineering from the University of Rhode Island in 2002.

Jamie Payton, associate professor

Jamie Payton comes to Temple from the University of North Carolina at Charlotte, where she has been a member of the faculty since 2006 after earning her doctorate in computer science from Washington University in St. Louis. Dr. Payton obtained multiple research grants in the areas of pervasive computing and broadening participation. She is currently the director and principal investigator of the Stars Computing Corps, which has been supported by more than $3.5 million in funding by the National Science Foundation.

Richard Souvenir, associate professor

Richard Souvenir comes to CST from the Department of Computer Science at the University of North Carolina at Charlotte, where he was a faculty member since 2006. His research involves application of machine learning methods to problems in computer vision, with a focus on providing intuitive methods for querying video data. Souvenir received his doctoral degree in computer science from Washington University and has attracted more than $2 million in research funding from NSF, Google and others.
Recent graduates shine: Uber’s self-driving car, Google and Fortune 50 consulting

When it comes to technological frontiers, four recent CIS graduates could not be more cutting edge.

Vladan Radosavljevic (PhD ’11, CS) and Nemanja Djuric (PhD ’14, CS) are part of the team Uber has assembled to develop an autonomous vehicle. Michael Molnar (BS ’13, IS&T) is a technical program manager for Google. And Morgan Taylor (BS ’14, IS&T) is working for a national IT management consulting firm, CapTech Ventures Inc., as a consultant to a Fortune 50 telecommunications firm in Philadelphia.

Radosavljevic and Djuric initially worked for Yahoo Labs. About a year ago, the two Serbian natives joined Uber’s ATG Advanced Technology Group in Pittsburgh. “Both of us are working on machine learning problems related to self-driving cars, such as mapping, perception, prediction and safety,” says Djuric. “It’s really fun working directly on the car as we implement methods and solve problems.”

Adds Radosavljevic: “There are just a handful of groups in the world working on these problems and we are one of them. It’s challenging, but we have a chance to change the world, improve the quality of life and save the lives of motorists and pedestrians.”

Molnar, who has worked for Google since graduating three-and-a-half years ago, first managed IT projects in Silicon Valley. Since last June, he has been a technical program manager in Google’s Manhattan office. “It’s great to be surrounded by smart, caring people who are just as passionate about what we are doing as I am,” he says. “It’s rewarding to see how our work impacts millions of lives each day.”

Taylor has been consulting project manager for more than two years with her telecommunications client. Prior to that, she worked for CapTech as a business analyst for a space and national defense security client. “I’m always learning about how different businesses work and how technology can help them,” says Taylor. “I often go back to CIS to engage with students, professors and alumni because the sense of community that CIS offers really helped build and develop me.”

The other CIS graduates also credit Temple for laying a foundation for their success. “Basically, everything we learned during our time at Temple regarding machine learning methods and tools we are now using in the real world,” says Uber’s Djuric.

Molnar, whose paternal grandparents both graduated from Temple, agrees: “Temple offers a strong foundation in technology—things like networking, basic programming capabilities, how various core technologies work—and those fundamentals have helped me understand what I work on at Google every day.”
NSF funding research into data-mining of social media

CIS researchers have been awarded a $1.08 million National Science Foundation grant to study the targeted monitoring of social media to understand users’ opinions about products and brands, election preferences or recent world events; aggregate data about such topics as reviews of products and services; mine data for early crisis detection and response; mine data to fight crime; and mine data to enhance national security and combat terrorism.

“From a computer’s point of view, the contents of social media are simply streams of data,” says Assistant Professor Eduard Dragut, one of the principal investigators. “We have to develop an algorithm that will enable computers to identify specific entities within the text of a message, such as Coca-Cola, Temple University or Boko Haram.”

Challenges to that task include the massive volume of messages posted daily on such social media platforms as Twitter, Facebook and Instagram; the speed at which they are posted; their free-form language; lack of context; and the use of multiple languages. Ultimately, the goal is to detect, in near real-time, pieces of text that reference specific entities and then link such entity references to both other social media platforms and to web pages that mention and define these persons, groups and products.

“One interesting facet of this project is that, despite the fact that microblogs such as Twitter are so short, through the identification and aggregation of specific entities mentioned, we can extract a lot of information,” says Associate Professor Yuhong Guo, the project’s other lead investigator.

New degree programs in data science and cyber-security

CIS has introduced several new undergraduate and graduate programs focusing on computational data science, designed for students interested in developing expertise in data science, an interdisciplinary field focusing on knowledge discovery, predictive analytics and decision making from large data. Taught by our internationally recognized research faculty in machine learning, artificial intelligence, data mining, information retrieval, big data, and cloud computing, CIS students will gain a wide range of skills in data science, including problem solving, algorithmic, computational, and statistical thinking, a strong mathematical foundation, using powerful computer systems for management, processing, analysis, and learning from data, and communicating insights with the non-experts. Data science skills are in demand and CIS programs will position students for successful careers.

With the rise of cyber-crime and terrorism and their impact on privacy, finance and national security, the new Professional Science Master’s (PSM) in Cyber Defense and Information Assurance provides professionals with the skills necessary to protect organizations from these increasing cyber-threats. The curriculum is technology intensive, yet also bridges the increasing gap between cyber security technology and the overarching cyber security standards and policies. As with other PSM programs within the College of Science and Technology, the Cyber Defense and Information Assurance program is designed to enable students to develop workplace skills valued by top employers.

Additional information on these new and the existing CIS programs are available at cis.temple.edu

Capstone project could benefit up to 500 Temple academic programs

Under the guidance of assistant professors Rose McGinnis and Wendy Urban, four CIS seniors, as part of their capstone project, produced a new program for the Office of Institutional Research and Assessment that could benefit annual assessments of up to 500 Temple academic programs.

The student team, which created more than 16,000 lines of code, included graduating seniors Salvatore Giagfagione, Kyler Love, Matthew Merritt and Alysa Truong and junior Yash Patel. Their story, titled “Campus, Coded” was featured in the winter 2017 Temple alumni magazine. Read the complete story at the College of Science and Technology’s web site at cst.temple.edu/campuscoded

CIS FUNDED RESEARCH, NEW EXTERNAL GRANTS
Sept. 1, 2015 to Sept. 1, 2016

Eduard Dragut
• Streaming Architecture For Continuous Entity Linking In Social Media, NSF

Xiaojiang Du
• Light-Weight And Effective Security Schemes For Wireless Medical Devices, Qatar Science Foundation

Krishna Kant
• Enabling Multi-Party Collaborative Data Access, NSF

• Exploiting Cross-Disciplinary Synergies for Efficient Perishable Commodity and Information Distribution, NSF


Zoran Obradovic
• Structured Regression in Complex Networks by Fusion of Qualitative Knowledge and Big Data, Office of Naval Research

• Technologies for Host Resilience, DARPA

Chiu Chiang Tan
• Evidence of Presence for Intelligent Vehicles Using Environment-Based Security, NSF

Slobodan Vucetic
• Deep Learning for Representation of Codes Used for SEER-Medicare Claims Research, NIH

• Incorporating Residential Histories into Space-Time Models for Health Geographic Analysis, NSF

• Customizing Therapy for Individuals with Autism, NSF

Pei Wang
• AUDREY: A Distributed Intelligence and Situational Awareness System for Next Generation First Responders, NASA Jet Propulsion Laboratory

Jie Wu
• Coexistence of Heterogeneous Wireless Access Technologies in the 5 GHz Bands, NSF
Local Hack Day draws 100 students to Temple

Temple students hosted their first Local Hack Day in December 2016, a regional event that brought together 100 students from Temple, Drexel, Lehigh and Villanova universities and the University of Pennsylvania for a 12-hour technology hackathon.

The event pulled together groups of four students to create projects such as web and mobile apps or hardware hacks. Local Hack Day, sponsored by Guru, SEI Investments and Vanguard, was organized by TUDev, which works with student organizations and the CIS Department to get more students interested in coding and technology, and Temple’s chapter of the Institute of Electrical and Electronics Engineers.

“It’s a great way for people to work on little projects together and learn new skills and technology,” says TUDev member Amadeusz Deutry, a senior computer science and mathematics dual major. “It’s an opportunity for students to apply what they’ve learned in class to real problems and get real results.”

CIS Students Attend Grace Hopper Conference

The Grace Hopper Celebration of Women in Computing Conference is the world’s largest gathering of women technologists. Each year, several CIS students attend and experience a great opportunity to gain professional visibility, expand networks and learn about new and exciting technologies.

Conference attendance is partially funded through Temple University’s OwlCrowd online fundraising campaign. This year, Temple’s alumni and friends contributed more than $5,100—more than $1,500 above the department’s goal—to send 3 students to the conference in Orlando in October 2017. Grace Hopper students are also generously supported by Vanguard and PrintMail Solutions.

This year’s conference will focus on topics like technology, productization, emerging tech, open source and organizational inclusion.

College of Science and Technology Distinguished Faculty Awards

The Dean’s Distinguished Teaching Award
John Fiore, assistant professor (instruction)

The Italia-Eire Foundation Distinguished Teacher of the Year Award
Rose McGinnis, assistant professor (instruction)