Dear CSE Alumni, Parents, Friends, and Colleagues,

The Buckeye Blog was started after I came to The Ohio State University in 2006. This will be the last time I edit this Blog of the 20th issue. The purpose of this Blog is to keep our current students, faculty/staff members and more than 10,000 alums informed about the progress of CSE, and to celebrate the accomplishments, contributions, and impact of our alums in the real world. Members in the big CSE family have been well connected by the Buckeye Blog.

I will be stepping down from the Chair position at the end of the summer. It is a privilege and honor to have been the Chair for 12 years, which makes me to be the longest chair in the department history so far. I would like to thank all the support from our faculty, staff, students, parents, alums and friends who make the CSE department a wonderful place to study, work, teach and to do research.

CSE has become an important pillar in science, engineering and in the society. For many years, science and mathematics are two key pillars in engineering fields for fundamental processes of the physical world, and for quantitative modeling the nature of engineering designs. Today, another critical and necessary pillar is added, which is computation and data analytics. This pillar not only becomes the foundation in all science and engineering fields, but is also closely relevant to many aspects in our daily life.

We are fortunate to study and work in this exciting field. I wish you and our department all the best.

Xiaodong Zhang
Chair and Robert M. Critchfield Professor
Computer Science and Engineering

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The Department: By the Numbers

**Faculty**
- 40 Regular Faculty
- 2 Clinical / Research Faculty
- 6 Adjunct Faculty

**Graduate Enrollment**
- 114 MS Students
- 186 PhD Students

**Undergraduate Enrollment**
- 852 Computer Science and Engineering Majors
- 682 Computer Science and Engineering Pre-Majors
- 253 Computer and Information Science Majors
- 227 Computer and Information Science Pre-Majors

**Research Expenditures**
- 2017 $10.2 Million
- 2016 $10 Million
- 2015 $8.3 million
- 2014 $7.6 million
- 2013 $8.7 million
- 2012 $8.3 million
- 2011 $7.3 million
- 2010 $6.2 million

**Alumni**
- 6,767 BS Alumni
- 335 BA Alumni
- 2,580 MS Alumni
- 665 PhD Alumni
On March 3, 2018, during a full CSE faculty meeting, a group of University leaders from the Office of Research and the Office of Provost unexpectedly entered Dreese Lab 480 and announced that CSE Professor Sadayappan had been selected to be one the six University Distinguished Scholars this year. This annual award is given to a small number of top professors for their exceptional scholarly accomplishments. CSE faculty members were surprisingly pleased with this ceremony because they consider Saday truly deserves this award. Saday’s wife and daughter came to join the celebration.

Two major products determine the distinguished level of a university: the impact of faculty scholarships and the excellence of the graduated students. Saday has made great contributions for these two products at The Ohio State University. Saday joined the CSE department in 1983 (35 years ago) as an assistant professor. He has graduated more than 40 Ph.D. students. Many of them are academic and industrial leaders including an Intel Fellow, an IBM Fellow, and a Distinguished University Professor. Saday is also an outstanding teacher, and has received several teaching awards. Saday is internationally renowned for his research on compilers for high-performance and parallel computing. His nomination was supported by a group of distinguished experts in his field. One expert says, “Saday has established a well-deserved reputation among his national and international peers as a stellar researcher in high-performance computing who pursues innovative approaches to persisting problems of productivity and programmability in the field.” Another one states, “Saday has been one of the most highly influential, innovative and productive researchers in enhancing productivity while enabling a high level of performance in high-performance computing for over 30 years, in addition to outstanding teaching, mentoring and service to the profession and community.”

Saday is the third Distinguished Scholar since 2014 within the CSE department after Leon Wang and DK Panda. In the ceremony, Department Chair Xiaodong Zhang commented on the three distinguished colleagues by three common traits: “First, all of them grew from the grass roots as assistant professors in this department. Second, each of them is best known in their fields for significant contributions. Finally, they are all working very hard in a persistent way because they aim for big impact.” Congratulations to Saday on this honor.

Pictured from left to right: Dr. Leon Wang, Professor in CSE; Dr. Xiaodong Zhang, CSE Department Chair; Valli Sadayappan, wife of Saday; Dorota Grejner-Brzezinska, Assoc. Dean for Research; Shambavi Sadayappan, daughter to Saday; Janet Weisenberger, Senior Associate VP for the Office of Research Faculty; Dr. P. (Saday) Sadayappan; Kay Wolf, Vice Provost for Academic Policy and Faculty Resources; Dr. Randy Moses, Interim Senior VP for Research
The National Science Foundation has awarded CSE Assistant Professor Yinqian Zhang a Faculty Early Career Development (CAREER) Award for his research entitled Taming the Side-Channel Hazards in the Shielded Execution Paradigm. In conjunction with the award, Yinqian will receive $500,000 to support his research --- an investment that according to the NSF will help young scholars build a foundation for “a lifetime of leadership in integrating education and research.”

Yinqian’s five-year project will explore novel ways to address side-channel threats in the emerging shielded execution paradigm, such as Intel’s Software Guard Extension (SGX). SGX is a hardware extension that provides software applications against compromised operating systems. However, recent studies have shown that SGX is vulnerable to side-channel threats, in which the system software measures the programs’ use of system resources or micro-architectural resources to infer their secrets. Yinqian’s research will develop novel principles and techniques to detect side-channel vulnerabilities in SGX software and thwart side-channel attacks at runtime. This research project will accelerate the broader acceptance of the shielded execution paradigm and the SGX technology. The research will also promote awareness of side-channel hazards to students, researchers, industry partners, and the general public, and hence motivate the adoption of the side-channel defense techniques in real-world applications.

Before joining the department in 2015, Yinqian received his Ph.D. in computer science from the University of North Carolina at Chapel Hill. His research focuses on system security, cloud security, and side-channel security.

The Faculty Early Career Development (CAREER) Program offers the National Science Foundation’s most prestigious awards in support of junior faculty who exemplify the role of teacher-scholars through outstanding research, excellent education and the integration of education and research within the context of the mission of their organizations. Such activities aim to build a firm foundation for a lifetime of leadership in integrating education and research.

Spyros Blanas, Assistant Professor in CSE, was awarded the 2018 IEEE Technical Committee on Data Engineering Early Career Award for his contributions to high-performance database management systems. The Computer Science and Engineering Department is the only department to receive two such awards.

This award is based on an individual’s whole body of work in the first 5 years after the PhD. The award aims to promote current database researchers as they create their career.
Wei Xu Named CrowdFlower AI for Everyone Challenge Winner

AI platform for data science and machine learning CrowdFlower announced on Wednesday the third round winners for its $1 million “AI for Everyone” Challenge. Assistant professor Wei Xu in Computer Science and Engineering is named one of the two winners. Her winning project, LanguageNet, will create multilingual data and enable deep learning techniques for cutting-edge natural language processing research. The other winning project is on studying hate speech by a team of researchers from multiple institutions, including Stanford and Cornell University.

Wei Xu’s research group will leverage crowdsourcing and deep learning techniques to build a database of synonymous expressions. As long, complex ideas can be stated in a variety of ways, current natural language processing algorithms have a tough time understanding them. But building a corpus of synonymous phrases and meaning representations will be a big step forward for understanding the ever evolving human language. Wei and her team have made some great progress on their algorithms and methodology already. The problem? --- Deep learning algorithms are data hungry. The LanguageNet project will crowdsourced human annotations for different languages at a large scale, through the help of CrowdFlower, and then train deep learning models to identify semantic relations. More about the story: https://www.crowdflower.com/announcing-q4-ai-everyone-winners/

The “AI for Everyone” Challenge was created by CrowdFlower to help advance cutting-edge Artificial Intelligence projects. The challenge is granting eight awards to companies, organizations or individuals using AI to solve critical problems. Selection is based on the innovation of the project, its importance to the advancement of AI and the overall potential impact of the proposed initiative.

New Faculty Joining CSE

Three new faculty members will join our department over the next year.

Wei-Lun (Harry) Chao, Machine Learning, will join our department in 2019.

Pooya Hatami, Theory, will join our department in 2019.

Yu Su, Data Mining and Natural Language Processing, will join our department in the summer of 2018.
As cars become autonomous, devices get interconnected and smart technology gains popularity, new questions are being asked about the privacy and legal implications.

Questions like: If a self-driving car crashes, causing someone to be hurt or even killed, could software engineers or manufacturers be held liable? Should your personal data from a medical device be used to help other patients? And as smart devices become more common in homes and record more data about us, who should be able to access that data?

Professor Bryan Choi listens to student discussion during his intellectual property and ownership course. Assistant Professor Bryan Choi aims to bring both the engineering and law communities together to discuss these issues and help make well-informed policy. His joint appointment in Ohio State’s Moritz College of Law and Department of Computer Science and Engineering is the first of its kind at the university, and one of few such appointments nationwide.

With degrees in both computer science and law, Choi is well-suited to bridge the two fields. Before joining Ohio State he was a Faculty Fellow at the University of Pennsylvania Law School’s Center for Technology, Innovation and Competition, and a Fellow at the Yale Information Society Project. He has also practiced law and worked as a software developer.

One of the goals of Choi’s unique role is to foster more understanding of how the fields of law and engineering can each add real value to the other. He also hopes to inspire more engineers to pursue a career in law.

“The legal field needs more engineers. It’s not just patent attorneys—policymakers, judges and lawyers all need to understand how these technologies work in order to make better law,” he said. “Otherwise we risk letting others make these decisions for us without a complete understanding of the facts or the science.”

For Buckeye engineers who aren’t interested in pursuing a law career, Choi hopes his courses will help them understand how knowledge of legal methods and frameworks can make them better engineers.

At Ohio State, Choi launched the first law class geared toward engineers and the computer science community last spring. It focused on tort law—civil remedies for accidents and other personal injuries—as applied to driverless cars and other cyber-physical systems.

“We shouldn’t be trying to build perfect systems,” he explained. “We should instead anticipate that that code will either fail or be compromised, and then ask what’s the best response in that situation?”

On the research side, Choi wants to provide better legal guidance to software engineers who design cyber-physical systems. Especially when things go wrong, he said, it’s important that engineers understand when the law is going to say that a programmer or manufacturer made the wrong decision and must pay, and when the law will say the risk was acceptable.

His current work focuses on making code safer and more reliable. The key to accomplishing that, Choi explained, is to ensure that systems are “crashworthy” in a way that prevents undue harm when the code fails, the same way we expect seatbelts and airbags to protect us when a car crashes.

As a member of Ohio State’s Translational Data Analytics Institute (TDA), Choi is also part of a team examining big data questions at the intersection of computer science and law. The institute helped create the opportunity for Choi’s joint appointment through their focus on recruiting multidisciplinary scholars.

“Self-driving cars, for instance, are going to collect a ton of data. How much data should we keep? How should you keep that data? Should it be tamper evident? How much of that should be built into the systems before deploying them to the public?” Choi said, sharing a few examples of the issues being studied.

TDA’s goal isn’t just to analyze data, but to translate it for the real-world, something that appeals to Choi as both an engineer and a lawyer.

“Law is very much rooted in the practicalities of the real world, as is engineering. Actively engaging with both is necessary at the onset, rather than later when it becomes costly to make meaningful changes,” he explained.

by Candi Clevenger, College of Engineering Communication
A year ago, Anjali Kapoor (pictured above) was a first-year student searching for a comfort zone in the male-dominated field of computer science when she showed up alone at MakeOH/O, a hardware-oriented hackathon at Ohio State.

“I came in pretty nervous,” Kapoor said.

There were about 150 students at MakeOH/O, an intimidating beehive of wire strippers, soldering irons and an assorted equipment such as oscilloscopes.

Undeterred, Kapoor signed up and joined a team with three males. To her surprise, they encouraged her to be the main coder on their project, an automated greenhouse.

“I was having my ideas and my voice heard,” Kapoor said.

Kapoor’s eyes were opened, too. The Mason, Ohio, native noticed other women at the event, some participating as groups of four.

“It was something that was exciting,” Kapoor said. “I saw that my friends – women in computer science – can form teams and build products together. There’s not a lot of spaces for women to work together.” Kapoor’s experience was so enjoyable she’s now sponsorship co-leader for MakeOH/O, being held March 3-4 for the third consecutive year in Knowlton Hall.

Between 150 and 200 students are expected to build projects as teams of two to four in a 24-hour period at MakeOH/O. Food will be free, and judges will award more than $1,000 in prizes.

“It’s a bonding experience,” said Bettina Bair, an Ohio State senior lecturer in computer science and engineering. “They work all night, approach obstacles and challenges together, and solve them together. It’s like a camping trip, but it’s all indoors and you don’t have to deal with bugs and leaky tents.”

Tech culture jumps forward
Like HackOH/O, a larger software-oriented hackathon held on campus each fall, this year’s third MakeOH/O is a spin-off from OH/O, a student-led program founded in 2013 to foster the university’s tech culture.

“For me, OH/O was an important reason why I stayed in my major and why I stayed in tech,” said Winnie Li, a Microsoft product manager and 2017 Ohio State graduate in CSE.

Keeping female students in STEM through events such as MakeOH/O is one of several ways Ohio State is trying to diversify the field of electrical and computer engineering. It’s a challenge faced by universities and the workforce throughout the nation.

Bair said recruitment and retention of women are the main challenges to stemming the drop-off, and both are tied to culture, an issue without one solution.

The National Science Foundation found that in 1985, more than 35 percent of computer science majors in the U.S. were women. That number is now 17.9 percent.

Discovering solutions
Ohio State is attacking the problem in numerous ways. Betty Lise Anderson, a professor of electrical and computer engineering, leads an outreach program to help K-12 students explore engineering. For current students, the university has a Women in Engineering (WiE) program and a chapter of the Association for Computing Machinery Committee on Women (ACM-W).

“The clubs are definitely making a difference,” said third-year student Courtney Campbell, co-president of the local ACM-W chapter. “Ohio State and ACM-W have worked really hard to make sure all women know they’re supported here. You know there are people behind you, and different events like HackOH/O and MakeOH/O help support you.”

Julia Armstrong, CSE director of the OH/O Informal Learning Program, said 20 percent of the 667 students at the 2017 HackOH/O were women, a 4 percent improvement from the previous year.

Dana Vantrease, a 2002 Ohio State graduate in CSE, was happily surprised to see so many women when she walked into the Ohio Union’s main ballroom last October to serve as a mentor at HackOH/O.

“Almost every single table I looked at had at least one woman. Things have changed a lot. I still feel like we have a long way to go, but building casual interactions in hackathons builds community.” ~Dana Vantrease ’02 Hardware Development Engineer, Amazon Web Services

The communal feel of HackOH/O made a strong impression on Emma Wenckowski, who teamed with three other women at last year’s event.

“What has helped me is walking into a room and seeing other women,” said Wenckowski, a freshman from Chicago. “What’s really helping women is other women creating a space where you can find a community instead of having to fit into the boys’ club. It’s about finding a way to make computer science your realm and being OK that we don’t all think the same way.”

Retaining the talent
Besides a cultural shift, Ohio State events such as the upcoming MakeOH/O offer a unique chance to learn outside a classroom.

“Research has shown women benefit from making the connection between application of technology to the theory behind the technology,” Bair said. “If MakeOH/O shows there is application for hardware skills, then that is going to help retain them.”

Activities like MakeOH/O that help retention are one thread in a tapestry of ways Ohio State is trying to close technology’s gender gap.

“MakeOH/O won’t fix it,” Kapoor said, “but it gives women an opportunity to say, ’I’m in this field, I belong here, and I can do this.’ That’s definitely a powerful thing.”
A paper, titled “OS-level Side Channels without Procfs: Exploring Cross-App Information Leakage on iOS”, authored by Xiaokuan Zhang, a CSE student and Prof. Yinqian Zhang (in collaboration with researchers at the Indiana University) was published at The Network and Distributed System Security Symposium (NDSS) 2018 on Feb 18th. The paper studied information leakage in iOS and show that a malicious iOS app can extract sensitive information from other apps. This attack violates Apple’s security policy of isolating apps in their own sandbox. The findings were discussed with Apple (before publishing the paper) several times during the second half of 2017. The issues identified in the paper have been acknowledged by Apple in CVE-2017-13852 (https://cve.mitre.org/cgi-bin/cvename.cgi?name=CVE-2017-13852), CVE-2017-13873, CVE-2017-13877. Some countermeasures presented in the paper have been implemented in iOS 11 and MacOS High Sierra 10.13 and later versions. Contributions have been acknowledged by Apple: https://support.apple.com/en-us/HT208112.

Students, Guoxing Chen, Sanchuan Chen, and Yuan Xiao, Prof. Yinqiang Zhang, Prof. Zhiqiang Lin, and Prof. Steve Lai, have posted a paper on Arxiv.org on a study of Spectre attacks against Intel SGX. The work has been broadly reported by many IT media (if you search SgxPectre attacks in Google) and the attack resulted in an update of the Intel SGX SDK on March 16, 2018. A CVE number is assigned to the problem: CVE-2018-3626. A security advisory has been posted on the Intel’s website: https://security-center.intel.com/advisory.aspx?intelid=INTEL-SA-00117&languageid=en-fr.

Two Best Papers from Prof. Shen’s Research Group

Prof. Shen’s research group has recently won two best paper awards in top visualization and data analytics conferences. One is the best paper award in IEEE Pacific Visualization 2018 conference, and the other is the best paper honorable mention award in ACM SIGGRAPH Asia Symposium on Visualization. The first paper entitled “GANViz: A Visual Analytics Approach to Understand the Adversarial Game”, authored by CSE Ph.D. student Junpeng Wang, Prof. Shen and their co-authors, proposed a visual analytics system, named GANViz. The system can open the black box of deep generative neural networks and help deep learning experts to effectively interpret their models. With the promising results demonstrated in the paper, their work made an important and practical step towards explainable artificial intelligence. In the second paper entitled “Winding Angle Assisted Particle Tracing in Distribution-Based Vector Field”, authored by CSE Ph.D. student Cheng Li and Prof. Shen, proposed a new method to trace particles in uncertain vector field. Using the Bayes Theorem, the tracing task treats the previous step as a prior condition, and computes a posterior distribution of the next tracing direction. The posterior distribution conducts better prediction of the particle, compared to baseline methods. Recently, Prof. Shen’s research group also won the best paper honorable mention award in IEEE Visualization 2017, the very top conference in his field.
CSE Founding Chair Marshall C. Yovits Passed Away

The first CSE Department Chair Marshall Yovits passed away in Deerfield, Illinois on May 4, 2008, only 12 days before his 95th birthday.

Yovits was born in Brooklyn, NY on May 16, 1923 and grew up in Schenectady, NY. He received his BS degree from Union College. After spending the World War II years in the U.S. Army Air Corps, he earned his PhD in physics from Yale University in 1951.

After his graduation from Yale, Yovits became a senior physicist in John Hopkins University for 5 years, he joined the Office of Naval Research in 1956 as the Head of Information System Branch, and was promoted to Director of Naval Analysis Group in 1962. In 1966, Dr. Yovits joined The Ohio state University as a professor to prepare a new Department called Computer and Information Science, which later was renamed as Computer Science and Engineering. He was the first Department Chair from 1969 to 1978. Yovits became the Dean of Science in IUPUI (Indiana University-Purdue University in Indianapolis), 1980-1988. He retired from IUPUI in 1993.

Yovits' research was in artificial intelligence. His edited book of “Self-Organizing Systems” includes original and early papers in the fields, which still makes impact. Yovits was elected to ACM Fellow in 1996 “for efforts in establishing the computer science conferences, for development of educational programs in computer science, and for the early support of seminal computer research”. He was named Computer Pioneer by the IEEE Computer Society in 1989.
Jian Chen, Assistant Professor
Nat Inst of Standards & Tech - *Understanding immersive metrology datasets; Scientific and information visualization integration and hybrid input*

Jim Davis, Professor
Wright State Univ (Air Force Prime) - *Context-based semantic segmentation for object classification*

Zhinqiang Lin, Associate Professor
NSF Div of Computer & Network Systems - CAREER: *A dual-VM binary code reuse based framework for automated virtual machine introspection*

NSF Div of Computer & Network Systems - SDI-CSCS: *Collaborative Research: S2OS enabling infrastructure-wide programmable security with SDI*

NSF Div of Computer & Network Systems - TWC: *Medium: Collaborative: Systems, tools, and techniques for executing, managing, and securing SGX programs*

Univ of Texas at Dallas (ONR Prime) - Final Second: *Feature identification, neutralization, and automated de-Layering for securing code on demand*

Xiaoyi Lu, Research Scientist
Business-Intel Oriental Nations Co Ltd - *Designing and optimizing RDMA-based apache thrift framework for query workloads*

Arnab Nandi, Associate Professor
Honda R&D Americas, Inc - *Human-in-the-loop guided visualization and analytics*

Oregon State Univ (NIH Prime) - *Biomedical data translator technical feasibility assessment of reasoning tool*

Dhabaleswar Panda, Professor
Univ of Texas at Austin (NSF rime) - *Stampede 2: Operations and maintenance for the next generation of petascale computing*
Ness Shroff, Ohio Eminent Scholar, Computer Science & Engineering
Ulsan Nat Inst of Sci and Tech - Low-latency streaming system for AR/VR applications

Alan Ritter, Assistant Professor
Wei Xu, Assistant Professor
Leidos, Inc (Army Prime) - Modeling the spread of information through social and knowledge graphs

Han-Wei Shen, Professor
Los Alamos Nat Lab (US DOE Prime) - Visual analytics for large scale scientific ensemble datasets
UT-Battelle LLC (US DOE Prime) - A SciDAC institute for computer science and data

Rajiv Ramnath, Professor-Clinical
Nationwide Mutual Insurance Company - Integrating telematics data with other data sources to develop models of driver risk
Aastute Solutions Inc. - Information retrieval techniques for social customer relationship management (CRM) systems

Deliang Wang, Professor
Eric Healy, Professor - Speech and Hearing
Nat In Deafness&Other Commcnctn Disorders - Speech segregation to improve intelligibility of reverberant-noisy speech

Wei Xu, Assistant Professor
NSF Computer & Info Sciences & Eng - CRII: III: Learning a timely semantic resource from social media data

Yinqian Zhang, Assistant Professor
NSF Div of Computer & Network Systems - CAREER: Taming the side-channel hazards in the shielded execution paradigm
Yanzhang (Ryan) He (PhD’15) and Rohit Prabhavalkar (MS’12 and PhD’13), both working at Google, won best paper at the IEEE Automatic Speech Recognition and Understanding Workshop held in Okinawa Japan in December 2017. The ASRU workshop meets every two years and has a tradition of bringing together researchers from academia and industry in an intimate and collegial setting to discuss problems of common interest in automatic speech recognition and understanding. This event is a premier venue in the speech recognition field.

Yanzhang (Ryan) He works on Google’s speech team, research and develop algorithms to improve automatic speech recognition (ASR) performance, with a focus on deep learning based embedded speech technologies for acoustic modeling, language modeling and keyword spotting.

Rohit Prabhavalkar is currently a research scientist at Google, where his research focuses on embedded speech recognition technology. His other research interests include acoustic and pronunciation modeling for automatic speech recognition, natural language processing, and machine learning.

Guoqing (Harry) Xu was awarded the 2018 Dahl-Nygaard Junior Prize by Association Internationale pour les Technologies Objets. Harry completed his Ph.D. degree in the CSE department in 2011 and is currently an Associate Professor in the Department of Computer Science at the University of California-Irvine. The prize is named after Ole-Johan Dahl and Kristen Nygaard whose foundational work on object-oriented programming is one of the most important inventions in programming languages and software engineering. The Junior Prize is awarded annually to a young researcher who has demonstrated great potential for following in the footsteps of these two pioneers. Harry was recognized for his significant contributions to different aspects of object-orientation due to a unique combination of technical strength and ambition to deliver effective object-oriented programming technologies for big data systems.
Wright State University Professor Amit Sheth, Ph.D. (’85, MS ’83), has been elected a Fellow of the Association for the Advancement of Artificial Intelligence (AAAI) for a decade or more of “significant and enduring contributions to semantics and knowledge-based techniques to transform diverse data into insights and actions.”

Sheth’s research has pioneered the development and use of knowledge graphs to enhance AI techniques of machine learning and natural language processing for making sense of Big Data. This research has impacted individual and public health, biomedicine, social good, finance, advertising/marketing, and manufacturing.

Sheth has been an educator, researcher, and entrepreneur who has been among the top 100 computer science and electronics researchers based on h-index. He has been a principal investigator of more than $27 million in competitive grants and has founded three successful companies based on licensing his university research. He went to Wright State in 2007 as the LexisNexis Ohio Eminent Scholar and is the executive director of Kno.e.sis, the Ohio Center for Excellence in Knowledge-Enabled Computing.

Guohong Cao, CSE Alum, Named Distinguished Professor

Guohong Cao, professor of computer science and engineering, has been conferred the status of distinguished professor in Penn State’s College of Engineering, the highest professorial distinction in the University.

He was selected following a recommendation from Justin Schwartz, the Harold and Inge Marcus Dean of Engineering. “Guohong’s dedication to the education of our students and his research accomplishments are exemplary. He has mentored over 40 graduate students who have gone on to excel at top academic institutions and cutting edge companies. His research on mobile and wireless systems has had a great impact on industry and other researchers. His work on caching and data forwarding in mobile networks was used in open calls for proposals by both the Army and Navy, and was a centerpiece of the 10 year network science center funded by the Army Research Lab. His results were part of a successful technology transfer to CERDEC, and his work was extended under Phase I and Phase II SBIRs, in addition to being cited thousands of times. This combination of education and research leadership makes Guohong an ideal distinguished professor.”

Cao has been a Penn State faculty member in the Department of Computer Science and Engineering since 1999. His research interests are in the areas of wireless networks, mobile systems, wireless security and privacy, and the Internet of Things.

He has published more than 250 papers in his research areas. His work has been cited more than 18,000 times. Cao has been the principal investigator or co-principal investigator of over 30 grants funded by National Science Foundation, Army Research Lab, National Institute of Health, and various industry companies, with his own share of over $9 million.

Cao was named an Institute of Electrical and Electronic Engineers Fellow in 2011, and he was a recipient of the NSF CAREER award in 2001. He has won best paper awards and has been frequently invited as keynote speakers and distinguished speakers.

He received his doctorate and master’s degrees in computer science from the Ohio State University and his bachelor’s degree in computer science from Xi’an Jiaotong University, China.
Scholarships

Central Ohio Chapter of Association of Computing Machinery (ACM)
Cerys Hughes

Ernest William Leggett, Jr. Scholarship, The Leggett Family Award Endowment Fund
Hayden Conley
Frank Meszaros

Founders of the Computer Science and Engineering Department Scholarship Endowment Fund
Joel Wong
Minrui Yang

The Ganobcik Family/Genesis Endowed Scholarship Fund for Computer Science
Zachary Davis
Zachery McGuckin
Tyler Terbrack

The O’Connell Family Award
Daniel Herr

Ten-Hwang Lai Scholarship
Levi Klingler
Logan McPherson

Steve R. and Sarah O’Donnell Computer and Information Science Fund
Brandon Amdur
James Finefrock
Sina Lewis
Swathi Pillalamarri
Srinidhi Srinivas
Michael Trunk

Wael Bahaa-El-Din Scholarship
Jonathan Huang

Women in Computer Science Scholarship
Sarah Flanagan
Yiqing Zhang

Nationwide Scholarship
Nicholas Male

Michael and Dina Morell Scholarship Fund
Cody Craig
Stephen Wu

Alumni Undergraduate Scholarships
Michael Braun
Bo Liu
Yule Huang
Danqi Yuan

CSE Undergraduate Scholarship
Nathan Balli
Haomin Gui
Caleb Lehman
Jarrod Manguiat
Yifan Song

Matt J. Desch & Ann M. Murphy Award
Nishant Rimal
Vilas Weinstein

Crowe Horwath Scholarship
Jared Frees

Undergraduate Research Award
Muhammad Akbar
Mohit Deshpande

Department Awards

B. Chandrasekaran & Sandra Mamrak Graduate Fellowship
Jiongqian (Albert) Liang

Wael Bahaa-El-Din Scholarship on Performance Analysis of Computer Systems
Peng Jiang

Eleanor Quinlan Award
Robert LaTour

Outstanding Teaching Award
Doreen Close
Dr. Mike Bond
Dr. Feng Qin

Outstanding Service Award
Dr. Xiaodong Zhang

Lutron Foundation

Joel and Ruth Spira Excellence in Education Leadership Award from Lutron Electronics
Dr. Xiaodong Zhang

Pictured Right: Dana Vantrease, CSE Advisory Board Member, presents the Alumni Undergraduate Scholarships to Michael Braun, Yule Huang, and Danqi Yuan.

Pictured Left: Dr. Rafe Wenger presents the Outstanding Teaching Award to Doreen Close, Dr. Mike Bond, and Dr. Feng Qin.
Xiaodong Zhang received Joel and Ruth Spira Award for Excellence in Education Leadership by the Lutron Foundation

On April 19, 2018, at the annual CSE awards banquet, CSE Chair Xiaodong Zhang received Joel and Ruth Spira Excellence in Education Leadership Award. Lutron representative Will Howe presented the award to Xiaodong who is finishing his three terms of department chair and will return to his full-time faculty position.

Established with an endowment by the Lutron Foundation in honor of the company’s founders, the award recognizes professors in a selected group of top universities with excellent engineering programs, including CMU, Cornell, Georgia Tech, Michigan, MIT, Notre Dame, Ohio State, Penn State, and Purdue, for their accomplishments in teaching and education leaderships.

Xiaodong was selected to chair the department in 2006 after a national search of two years. He joined the department from the College of William and Mary, where he was the Lettie Pate Evans Professor and Computer Science Department Chair. Since he became the Department Chair here, great changes have been taken place in CSE at Ohio State. In Mr. Howe’s award presentation, he gave the following impressive numbers:

• 26 new faculty members have been hired since 2006, including several women and under representative minority members. More than half of the current tenure-track faculty in the department joined the department after 2006.

• 18 young faculty members received NSF Career Awards. The total number of the NSF Career awards in the department is 28, which is the highest record at Ohio State.

• 6 senior faculty members were elected to become Fellows of ACM and IEEE.

• Three senior faculty members are named as University Distinguished Scholars.

• Annual faculty research expenditure from external grants has been more than doubled and reached to $11M in 2017-18.

• The department’s graduate program is highly selective and is one of the largest in the college. More than 300 Ph.D. students have been graduated since 2006, which is more than half of the total number of Ph.D. graduates in the entire CSE history of 50 years.

• The Computer Science graduate program ranking and Computer Engineering graduate program ranking have been steadily improved. In 2006, the computer engineering ranking was #23 by a score of 3.3. In the most recent ranking, the computer engineering ranking is #17 by a score 3.6. In 2006, the computer science ranking was #34 by a score of 3.2. In the most recent ranking, the computer science ranking is #30 by a score of 3.4.

• Undergraduate enrollment has increased 122% (over 2,000 students in three majors: CSE, CIS, and Data Analytics)

and annual undergraduate majors graduates increased 138% (over 400). The department has graduated more than 3,000 undergraduate majors since 2006, which is more than 40% of the total number of CSE majors in the 50 year CSE history.

• $1.5M endowment funds have been raised as named scholarships to support undergraduate and graduate students.

Xiaodong also received a department service award presented at the banquet and he thanked the support and the honor given by colleagues and the Lutron Foundation. He said “All these accomplishments come from the talents, leaderships, hardworking, and collaborations among the students, staff members and the faculty. Keeping the current momentum, CSE will move to another level in the next 5-10 years.”

In addition to his busy administrative and professional service duties, Xiaodong has maintained a high profile research program. While the intellectual pursuit still maintains prominence in his research, Xiaodong also strives to transfer his research into advanced technology to impact general-purpose computing systems in both hardware and software. Several technical innovations and research results from his research group have been widely adopted in commercial processors, major operating systems and databases, and distributed systems. Among his list of Ph.D. graduates, 7 men and women have become faculty members in universities in the US, and 6 of them have received NSF Career Awards and DOD YIP award.

Xiaodong’s scholarship and leadership have been well recognized in the fields. He was named as IEEE Fellow (Institute of Electronics and Electrical Engineers) for his contributions to computer memory systems in 2009, and was named as ACM Fellow (Association for Computing Machinery) for his contributions to data and memory management in distributed systems in 2012. He received a Distinguished Engineering Alumni Award from University of Colorado at Boulder in 2011.
Many Thanks to Our Alumni and Friends!

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