

BUCKEYE BLOG



THE OHIO STATE UNIVERSITY

COLLEGE OF ENGINEERING

www.cse.osu.edu



Dear CSE Alumni, Parents, and Colleagues,

Welcome to the Spring 2017 Issue of the CSE Buckeye Blog. I would like to first thank you for your continuous support to the department. A big ocean flow comes from every drop of water.

With your support, we are able to run several important events that are not supported by the regular state and university budget. For example, we gave 40 awards to recognize excellent performance of students, staff and faculty members at the CSE Award Banquet in March (see pages 14 and 15 for the banquet pictures and names of the scholarship/awards).

The list of the donors to the department in the last six months can be found on the last page of this newsletter.

In the Fall, we will welcome three new faculty members to the department: assistant professor Raef Bassily in privacy, machine learning and data analytics; assistant professor Jian Chen in computer and information visualization; and associate professor Zhiqiang Lin in computer security.

We look forward to hearing from you on the progress and accomplishments gained in your life and work, and sharing them with the CSE family via the Buckeye Blog.

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

98 MS Students
 202 PhD Students

Undergraduate Enrollment

698 Computer Science and Engineering Majors
 590 Computer Science and Engineering Pre-Majors
 215 Computer and Information Science Majors
 234 Computer and Information Science Pre-Majors

Research

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
 2009 \$5.6 million

Alumni

6,467 BS Alumni
 466 BA Alumni
 2,538 MS Alumni
 625 PhD Alumni

Deep Learning Reinvents the Hearing Aid

In its March 2017 Issue, IEEE Spectrum, the official monthly magazine of the Institute of Electrical and Electronics Engineers (IEEE), highlights CSE Professor Leon Wang's contribution to solving the cocktail party problem in its cover story (posted at <http://spectrum.ieee.org/consumer-electronics/audiovideo/deep-learning-reinvents-the-hearing-aid>). With more than 420,000 members, IEEE is the largest technical professional organization in the world.

The cocktail party problem, or the problem of separating target speech from background interference, is the greatest challenge facing hearing aid wearers. Hearing loss is one of the most prevalent chronic conditions affecting 37.5 million Americans, and more than 10% of the world's population. Although the cocktail party problem has been tackled for decades in signal processing and related fields, no system or algorithm managed to help hearing-impaired listeners better understand speech in noisy environments.

Wang's breakthrough was based on a completely new formulation of the speech separation problem. Through his unique insights into perceptual mechanisms underlying human analysis of the acoustic scene, Wang and his students formulated speech separation as a classification problem. This reformulation has a profound consequence: the cocktail party problem could be treated as a form of supervised learning. Furthermore, Wang's group was the first to introduce deep learning to the field of speech separation or enhancement. With the powerful capacity of deep neural networks to model large training data, his team finally succeeded in substantially elevating speech recognition performance of listeners with hearing loss (as well as listeners with normal hearing) in noisy backgrounds.



Prof. Wang is a University Distinguished Scholar, and Co-Editor-in-Chief of Neural Networks. He is also an IEEE Fellow.

Dr. Neelam Soundarajan earns Lutron's Teaching Award

Dr. Soundarajan was given The Ohio State University, Computer Science and Engineering's fifth Joel and Ruth Spira Excellence in Teaching Award from Lutron. This honor is awarded annually to a faculty member who has excelled in teaching and inspiring students during the academic year.

Neelam is a highly regarded computer science educator who has successfully applied his expertise to the development of the undergraduate curriculum of Computer Science and Engineering in order to deliver the best education to undergraduate students.

In addition to previously serving as Associate Chair of Academic Affairs for the CSE Department, Neelam currently serves as the chair of the undergraduate study committee which is responsible for reviewing and improving the undergraduate programs in the CSE Department. Neelam is a computer science evaluator in the Accreditation Board for Engineering and Technology. This international organization evaluates higher educational programs in the fields of applied science, computing, engineering, and technology for the purpose of setting high and quantifiable standards.

A tireless worker in the CSE department, Neelam's research is in the area of formal methods for software engineering with particular interest in specification and verification questions. He is best known for his contributions and practice in computer science education, serving as an important leader in the CSE undergraduate program.

In addition to being recognized by Lutron with this Excellence in Teaching Award, Neelam received the highly selective and prestigious Boyer Award for Excellence in Undergraduate Teaching Innovation in the College of Engineering at Ohio State in 2006, and twice received the CSE department teaching award.



FACULTY RECOGNITIONS

Rock Stars of HPC: DK Panda written by Rich Brueckner

This Rock Stars of HPC series is about the men and women who are changing the way the HPC community develops, deploys, and operates the supercomputers and social and economic impact of their discoveries.

Over the past seven years here at insideHPC, I've spent a lot of time on the road at high performance computing events. In that time, perhaps no other speaker has been more prolific than DK Panda from The Ohio State University. As our newest Rock Star of HPC, DK sat down with us to discuss his passion for teaching High Performance Computing.

insideHPC: What first sparked your passion for HPC?

DK Panda: I have been working on high-performance computing for more than 30 years now. During my M.S. study, I was exposed to the concepts of parallel computing. It was fascinating to see how you can combine the computing power of multiple processors (processing elements, as defined at the time) to solve a bigger problem with a lesser time. During that time, "Dataflow Computing" was a hot topic. I selected my Master's thesis to be along this direction. My thesis focused on designing an efficient architecture for dataflow computing. The results produced by this thesis strengthened my passion to work in this field for my career.

Since then, I have been focusing on multiple aspects related to parallel computing and HPC. My Ph.D. thesis also focused on high-performance networking and architectures for coarse-grain multiprocessing. After I joined The Ohio State University, I worked for many years with wormhole routing mechanisms and schemes to design scalable communication libraries for HPC systems. As the networking technologies for HPC systems gradually moved to Myrinet, Quadrics, InfiniBand, iWARP, RoCE and Omni-Path, I have continued to work with these technologies and kept on proposing innovative solutions to designing high-performance, scalable, and fault-tolerant communication architecture and programming model support for HPC systems.

insideHPC: The open source HPC software developed by your team is used all over the world. Can you tell us more about that?

DK Panda: You are referring to the MVAPICH project. We started working on this project since InfiniBand technology was introduced in 2000. My team was the first one to investigate new ways to extract the benefits of RDMA mechanisms and features in InfiniBand for the MPI (Message Passing Interface) programming model. While continuing with the publications, we found out a need in the community to start using these solutions for production HPC clusters. My team went ahead, incorporated our solutions into an open-source MPI library (MVAPICH), and made it available to the community. The first version was released during Supercomputing 2002. Our library was used in System-X from Virginia Tech to become the 3rd ranked system (one of the first InfiniBand system) in the TOP500 list during 2003.

Since then, as InfiniBand technology has progressed with multiple new features and mechanisms, and new technologies/initiatives have been proposed for iWARP, RoCE and Omni-Path, my team has been continuously working on proposing new solutions for all these technologies and has been incorporating these solutions into the MVAPICH library. We have also incorporated optimized solutions related to the latest MPI and PGAS standards, accelerators (NVIDIA GPGPUs), multi-core/many-core processors, power-aware designs within the MPI library, integrated network management and tools, and HPC cloud technologies. The MVAPICH software family now covers all different kinds of HPC clusters being deployed and used in the field. In addition, my team also has created MPI- and PGAS-level micro-benchmarks and tools to analyze the performance of MPI and PGAS communication primitives.

The MVAPICH software libraries, micro-benchmarks, and tools are extensively used in the HPC community. These libraries have been powering several supercomputers in the TOP500 list during the last decade. Examples (from the Nov'16 ranking) include: 1st ranked 10,649,600-core (Sunway TaihuLight) at National Supercomputing Center in Wuxi, China; 13th ranked 241,108-core (Pleiades) at NASA; 17th ranked 462,462-core (Stampede) at TACC; and 40th ranked 74,520-core (Tsubame 2.5) at Tokyo Institute of Technology. As of April '17, more than 2,775 organization in 84 countries (based on voluntary registration) are using these libraries. More than 415,000 downloads of these libraries have taken place from the project's website. These libraries are also being made available in the software stacks of many different hardware vendors, software vendors, and Linux distros. These libraries are enabling hundreds of thousands of MPI and PGAS users worldwide on a daily basis to make giant leaps and breakthroughs in their disciplines.

insideHPC: You travel extensively every year to speak at conferences and meet with HPC users. Why is this important to your mission as a teacher?

DK Panda: Yes, for the last 16 years, I have been traveling extensively worldwide to deliver tutorials, keynote talks, invited talks and participate in panels at many events. Through these events, I have met a large number of HPC users working at all different layers of hardware, software, and applications of HPC systems. Many of these users also work in many different vertical domains. It has been an amazing experience. As an educator and teacher, I firmly believe in sharing and empowering people with knowledge. Through these events, I have been able to deliver cutting-edge information and knowledge related to HPC, Exascale computing, programming models, high-performance networking, Big Data, and Deep Learning to thousands of people worldwide. I regularly meet people in these events who have been using MVAPICH and other software libraries, designed and developed by my group.

I have heard many successful stories related to how these people and their organizations are using our libraries to advance their research and development work. It has always been a very satisfying experience to know that my team and I have been able to help these people and their communities to make advances in their respective disciplines. Many times, I also get critical feedback and suggestions from attendees in these events regarding how we can enhance and strengthen our libraries. I bring this feedback to my team. We work on incorporating their feedback and suggestions to our next phase of research, development and software releases. Thus, such engagements have been a continuous learning experience for my team and I.

insideHPC: What are the biggest software challenges for accelerated computing?

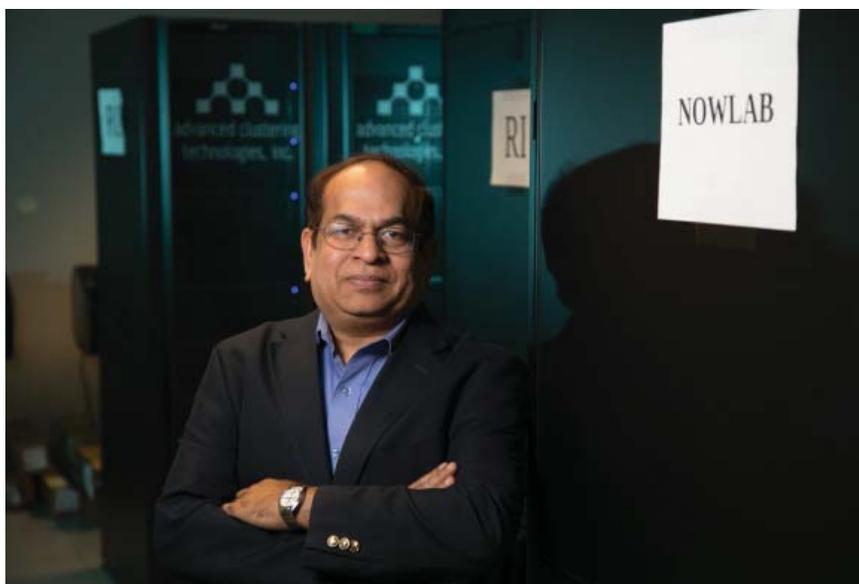
DK Panda: During the last several years, HPC systems have been going through rapid changes to incorporate accelerators. The main software challenges for such systems have been to provide efficient support for programming models with high performance and high productivity. For NVIDIA-GPU based systems, seven years back, my team introduced a novel 'CUDA-aware MPI' concept. This paradigm allows complete freedom to application developers for not using CUDA calls to perform data movement. The MPI library incorporates the necessary calls to move data from/to GPU devices and does it with the highest performance. The MVAPICH2-GDR library from my group incorporates such designs and delivers both high performance and high productivity. This new concept has been adopted by many other MPI stacks. This concept has also been extended to PGAS models, such as OpenSHMEM, by my team. This new concept is allowing a large number of GPU users an ease in programming while harnessing the best performance from their accelerator-based systems. As next-generation systems with GPUs are becoming complex in their configurations, new concepts and paradigms need to be researched and explored to provide efficient support for programming models for these systems.

insideHPC: Machine Learning is a very hot topic these days. What is your team working on in this area?

DK Panda: Yes, Machine Learning/Deep Learning are becoming very hot topics. This field is evolving along two directions: 1) Exploiting MPI libraries and 2) Exploiting Big Data stacks like Spark. My team has been working on both these directions. Currently, many Deep Learning frameworks (such as CNTK and Caffe) are using collective operations like broadcast, reduce and all-reduce with large message sizes. We have optimized such collective operations in our MVAPICH2-GDR library to deliver best performance and scalability for these Deep Learning frameworks. We have also worked on co-designing the Caffe stack to deliver both scale-up and scale-out. This enhanced version of the Caffe is available under the High-Performance Deep Learning project from my group. Under the second direction, for the last several years, my team has been working on bringing high-performance and scalability to the commonly used Big Data stacks (Hadoop, Spark, and Memcached). We have proposed and designed novel schemes such that these Big Data stacks can run on current generation HPC clusters with InfiniBand and RoCE networking technologies and parallel file systems like Lustre. These enhanced libraries (RDMA-Spark, RDMA-Hadoop, and RDMA-Memcached) are available under the High-Performance Big Data project from my team. Many Deep Learning libraries are able to take advantage of the HiBD libraries to extract higher performance and scalability on HPC clusters.

insideHPC: How important is Open Source to your efforts?

DK Panda: Open-source is quite important to the efforts in my group. As indicated above, the open-source MVAPICH project started in the year 2000 and has been going on in a strong manner for the last 17 years. Due to the open-source nature, many designs incorporated in the MVAPICH project have been adopted by other MPI libraries and middleware for HPC systems. The MVAPICH project has been a vital and strong component in the InfiniBand ecosystem during the last 17 years. In addition to the direct benefits to the HPC systems and users, the open-source MVAPICH codebase has also been used extensively by many students and professionals to learn about how to program and use InfiniBand and other RDMA-based networking technologies. Such learning has helped to train the next generation HPC professionals. We hope to continue with such efforts in the coming years.



Academic Research and Industry Collaboration Raises the Productivity of a Major Search Engine in the World

The 33rd International Conference of Data Engineering (ICDE) was held in San Diego, California, April 19-22, 2017, where CSE Professor Xiaodong Zhang presented a paper entitled “Feisu: fast query execution over heterogeneous data sources on large-scale clusters”. This presentation was given on behalf of his research team at The Ohio State University (Rubao Lee, Research Scientist, Yuan Yuan, CSE Ph.D.’16, and Xiaodong Zhang), and an engineering team headed by An Qin from Baidu, the major Internet search engine company in China. The research was initiated from an unacceptable data access latency problem in Baidu search engines run on large clusters of more than 100,000 machines cross several data centers in the country. This project consists of several basic research issues. Based on analytics on huge query data sets in Baidu, they discovered a unique data accessing phenomenon, which they defined as “query similarity”. In practice, many users asked same questions with an overlapped scope of logic conditions (or “predicates” in a database term). They further explained the reason behind this similarity based on data analytics: users often access data in a trial-and-error way for the purposes of debugging, testing, comparing and others before getting their satisfactory answers.

Motivated by the query similarity, instead of building a full index as a common practice in databases, which is very time-consuming in the process of creating and can cause a high latency in data accesses, they built special indices for selected data columns that cover the query similarities. This new indexing method is called SmartIndex that has been deployed in Baidu search engine ecosystems. Having been in production execution for about one year, SmartIndex plays an important role to accelerate data accesses by reducing the response time 300% on average. The newly developed data management system with SmartIndex is called Feisu, which means “fast” in Chinese.

In 2011, coincidentally, Professor Zhang presented a paper entitled “RCFile, a fast and space-efficient data placement structure in MapReduce-based warehouse systems” in the same conference of ICDE on behalf of his research team at The Ohio State University (Rubao Lee, Tian Luo, MS’14, Yin Hua, Ph.D’15, and Xiaodong Zhang) and an engineering team headed by Yongqiang He of Facebook Data Infrastructure group. RCFile was deployed in Hive, a Facebook data warehouse on large clusters before the paper was published in ICDE 2011. Today, RCFile has become a widely used storage format in almost all the data management systems. When asking about the future impact of this year’s ICDE paper, Professor Zhang said, “I think query similarity and SmartIndex have values of general purpose, and would be easily adopted in many systems to accelerate data accesses.”



In summer 2016, Professor Xiaodong Zhang organized a summer school on big data management in large clusters hosted by Tsinghua University in Beijing, where he systematically presented several fundamental data management methods in depth, which were started from basic research and later became critical components in major production systems. This summer school attracted more than 100 Ph.D. students, postdocs, young faculty members and engineers from all over the country.

WELCOME NEW FACULTY MEMBERS

New Faculty Members



Raef Bassily is currently a Data Science Postdoctoral Fellow in the Department of Computer Science & Engineering and the Center of Information Theory and Applications (ITA) at the University of California, San Diego. Prior to this, he was a postdoctoral scholar in the Department of Computer Science & Engineering at Pennsylvania State University. His current research focuses on developing practical algorithms for privacy-preserving machine learning and data analysis. His distributed protocols for histograms estimation have been recently deployed in the latest version of Apple's iOS to enable private crowdsourcing from Apple users. His earlier research focused on developing coding schemes and communication protocols to ensure information theoretic security in communication networks. He received his Ph.D. in Electrical and Computer Engineering from the University of Maryland, College Park, in 2012.

Professor Bassily will be joining the Department of Computer Science and Engineering in the Fall of 2017 as an Assistant Professor.

Jian Chen is an Assistant Professor in the Department of Computer Science and Electrical Engineering at the University of Maryland, Baltimore County (UMBC), where she leads the Interactive Visual Computing Lab (<http://ivcl.umbc.edu>) and UMBC's Immersive Hybrid Reality Lab (<http://tinyurl.com/ztnvdmf>). She maintains general research interests in the design and evaluation of visualizations (encoding of spatially complex brain imaging, integrating spatial and non-spatial data, perceptually accurate visualization, and event analysis) and interaction (exploring large biological pathways, immersive modeling, embodiment, and gesture input). She has garnered best-paper awards at international conferences, and her work is funded by NSF, NIST, and DoD. She is also an UMBC innovation fellow and a co-chair of the first international workshop on the emerging field of Immersive Analytics. Chen did her post-doctoral research at Brown University jointly with the Departments of Computer Science (with Dr. David H. Laidlaw) and Ecology and Evolutionary Biology. She received her Ph.D. in Computer Science from Virginia Tech with Dr. Doug A. Bowman.



Professor Chen will be joining the Department of Computer Science and Engineering in the Fall of 2017 as an Assistant Professor.



Zhiqiang Lin is an Associate Professor of Computer Science at The University of Texas at Dallas. He earned his Ph.D. from the Computer Science Department at Purdue University in 2011. His primary research interests are systems and software security, with an emphasis on developing program analysis techniques and applying them to secure both application programs including mobile apps and the underlying system software such as Operating Systems and hypervisors. Dr. Lin is a recipient of the NSF CAREER Award and the AFOSR Young Investigator Award.

Professor Lin will be joining the Department of Computer Science and Engineering in January 2018 as an Associate Professor.

BUCKEYE ENGINEER SPREADS PASSION FOR COMPUTER SCIENCE

by Emily Lehmkuhl, College of Engineering student communications assistant

On May 7, 2017 the College of Engineering welcomed more than 1,600 Buckeye engineers and architects into the alumni family.

When Winnie Li first came to campus four years ago, she was unsure of where she wanted her career path to go. Now a successful leader of two student organizations with a series of rewarding internships under her belt, the computer science and engineering trailblazer is ready for the professional world.

Li began exploring the computer science field because of its applicability to other industries.

“My involvement in student organizations is what really drove me to stay in the major and made me realize that you can use technology to help a lot of people, and solve a lot of problems,” said Li.

For the past two years, Li has served as president of the Association of Computing Machinery Women’s Chapter (ACM-W), working to build a community of women in computer science and equip them with skills to achieve their goals in the classroom and beyond. This year, under her leadership, ACM-W earned the university’s Outstanding Student Organization Award, while Li received an Outstanding Senior Award.

“The idea is to empower, encourage and support women in computer science and other STEM fields, because the field is still so heavily dominated by males,” said Li. “It can be hard to see yourself succeeding and find motivation when you are one of two girls in a class.”

Giving confidence to young girls interested in computer science is one of the most rewarding aspects of ACM-W for Li. Each year, the group hosts Buck-I-Code, an outreach event that brings 30 middle school girls to campus and teaches them computer science basics.

“Young girls don’t really have a chance to explore computer science because often they don’t have the resources and there are a lot of stereotypes that can deter their interest,” said Li. “This is an opportunity for girls to experience computer science firsthand.”

Li also works to foster tech culture among her fellow students and the Columbus community through her role in OHI/O, Ohio State’s hackathon program. She works to build relationships with local and national companies and encourages them to sponsor events and host workshops in order to connect with students.

“There is also an outreach component, figuring out how we can make technology more inclusive for everybody,” said Li. “A hackathon is not just for engineers or computer scientists, it’s for anyone who wants to learn a new skill and maximize their impact in their own field.”

Constantly working to make an impact in her field, Li has taken the knowledge she acquired in the classroom to several internships during her time at Ohio State. Her experience has ranged from teaching young students at tech camps to working as an application developer on JP Morgan Chase’s HR technology team to create a data visualization system and web application.

This past summer, Li worked at Microsoft’s New England Research Development Center in Boston as a product manager. There she oversaw a team working on an enterprise mobility product called Intune. It’s aimed at allowing employees to securely access corporate data from their personal devices.

“It was a role that allowed me to utilize my design, business and technical skills, which are three fields that I am really interested in,” said Li. “It helped me shape my career goals, now I know I want to be a product manager and work on products that can help people and use technology to empower others.”

After graduation, Li will continue her work with Microsoft in San Francisco as a product manager in the development division, working within the iOS team on mobile products that will help engineers write code more efficiently.

Li credits her OHI/O advisor, Computer Science and Engineering Assistant Professor Arnab Nandi, with helping her refine and pursue her goals. She advises other students to enrich their time as undergraduates by discovering new interests and exploring ways to achieve their goals.

“Make sure you are investing in yourself in everything you do, because it is so easy to get sucked into a thousand things on campus,” said Li. “But at the end of the day, it is important to focus on the things that mean a lot to you and are going to help you advance to where you want to go.”



GRACE HOPPER 2016

From October 19th - 21st, eleven members of The Ohio State University's ACM-W chapter joined over 15,000 women technologists in Houston, Texas for the 2016 Grace Hopper Celebration Conference. The GHC Conference is the world's largest conference for women in computing bringing together students, researchers, and industry professionals to learn, connect, and inspire.

ACM-W, the women's chapter of the Association of Computing Machinery, aims to encourage and support women in technology through focused efforts on professional and personal development, community building, and outreach programs. With the support from the College of Engineering, the Department of Computer Science and Engineering, and the Undergraduate Student Government, ACM-W was able to further its mission by attending the Grace Hopper Celebration Conference.



From left to right: Sophie DeRosa, Claudia Moeller, Claudia Hinkle, Winnie Li, Mary Catherine Good, Maria Emery, Emily Engle, Kirsten Boni, Protiva Rahman.
Not pictured: Edrienne Co and Caitlyn Horn

The ACM-W group sent 11 attendees this year including 1 Ph.D. student, 3 seniors, 3 juniors and 4 sophomores.

"Attending the 2016 Grace Hopper Conference was such a unique and wonderful experience. Being surrounded by 15,000 other women in the same field was inspiring because it made it seem that you are not alone in your efforts and that all the late night study sessions are worth it. Hearing all the different women speak about their accomplishments was inspiring, and motivating to continue to work hard. Attending the Grace Hopper Conference was an excellent idea and it opened me up to many more avenues in computer science." - Mary Catherine Good, B.S. CSE 2019

Members came back with a new sense of confidence, tools for personal growth, and the motivation to find and craft unique paths to achieve their highest ambitions. These benefits go beyond individual growth and in fact affects the larger Ohio State community. It is difficult to inspire and guide others, if one suffers from self-doubt. Every woman who attended GHC returned with a sense of belonging and purpose. They can, in turn inculcate these feelings to other women in technology, who are unsure about if they belong in the field. ACM-W members have further opened channels of opportunities for the community by building connections with researchers, industry professionals, and students from all over the world.

ACM-W attendees have realized a responsibility to fight the prejudices that enforce the gender gap, encourage interest in those held back by self-doubt and misconceptions, and increase retention by creating supportive networks. With their different perspectives, backgrounds, and ideas, members can build each other up and take their unique insights to advance towards a more inclusive tech community.

3 Minute Thesis

Mohit Deshpande, an undergraduate in the Computer Science and Engineering Department, competed in The Ohio State University's first undergraduate version of the 3 Minute Thesis competition. This event consisted of 10 students who were selected to compete based on their thesis abstract. All students were selected from different colleges or departments. The competition rules were simple: present your thesis in exactly three minutes with the help of a single PowerPoint slide. A panel of judges evaluated each competitor. Mohit presented his thesis work: Insert from Reality, which was done with Postdoctoral Researcher Omidvar-Tehrani Behrooz under Arnab Nandi. Upon completion of the event Mohit was awarded 3rd place.



The 3 Minute Thesis (3MT) was founded by the University of Queensland, Australia.

2017 IEEE International Conference on Data Engineering

Nicholas Meyer won the Engineering: Computation and Analysis category of the Denman for his work on DV8: Interactive Analysis of Aviation Data, a platform for interactive visualizations of aviation data. DV8 provides speed in its data querying and analysis tools so that aviation experts can fluidly explore their data. DV8 was also published and demonstrated at the ICDE 2017 conference in San Diego in April 2017.

Computer Engineering Graduate Program at Ohio State is ranked #21

According to a Special Issue of the US News and World Report on 2018 Best Graduate Schools, the computer engineering program at Ohio State is ranked #21 among 134 programs in the country. US News and World Report surveys graduate programs in engineering, law, business, medicine and education annually based on the peer assessment from department chairs and graduate directors in the Ph.D. granted departments of computer science and engineering in the country.

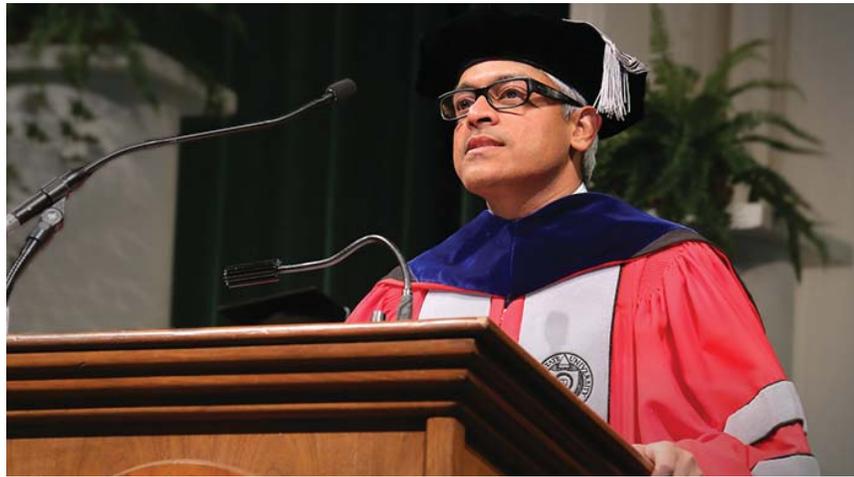
CSE alum becomes Graduate dean at Cleveland State University

CSE alum Dr. Nigamanth Sridhar has been appointed dean of the College of Graduate Studies at Cleveland State University. His new position will be effective August 1, 2017.

Dr. Sridhar is a professor of Electrical Engineering and Computer Science in CSU's Washkewicz College of Engineering. He is also president of the CSU Faculty Senate and associate director of the CSU Transportation Center.

Since joining CSU in 2004, he has served the University in various capacities and made significant contributions to research, teaching, faculty governance and community engagement. His outstanding accomplishments in research and teaching were recognized by the prestigious NSF Early Career Award in 2008. Currently, he is playing a crucial role in CSU's joint efforts with Case Western Reserve University on the Northeast Ohio Internet of Things Collaborative and the national CS for All effort to enhance computer science education in K-12 schools.

Dr. Sridhar received his Ph.D. in 2004 and M.S. degree in 2000, both in Computer Science and Engineering from The Ohio State University.



Congratulations to all the graduates for the 2016-2017 academic year.

We welcomed 439 new alumni including 31 Ph.D recipients and 75 receiving their master degrees.



ALUMNI WE WANT TO HEAR FROM YOU!

Do you have an update to include in the next alumni newsletter? Do you have any suggestions for topics you would like to see covered? Do you have any photos from your college days or today that we can include? We want to hear from you! Email your updates, photographs and suggestions to Tiffany McGough at mcgough.22@osu.edu.

FACULTY GRANTS



James W. Davis, Professor, Computer Science and Engineering

Wright State University: Context-based semantic segmentation for object classification



Jihun Hamm, Research Scientist, Computer Science and Engineering
Mikhail Belkin, Associate Professor, Computer Science and Engineering

Wright State University: Forward and reverse engineering tool and workforce development/
human centered big data & persistent location with spectrum sensing



DK Panda, Professor, Computer Science and Engineering

University of Austin: Enabling, enhancing and extending petascale computing for science and engineering



DK Panda, Professor, Computer Science and Engineering
Xiaoyi Lu, Research Scientist, Computer Science and Engineering
Kevin Manalo, Senior Engineer, Ohio Supercomputer Center (not pictured)
Hari Subramoni, Research Scientist, Computer Science and Engineering
Karen Tomko, Director of Software App, Ohio Supercomputer Center



NSF Div Advanced Cyberinfrastructure: S12-SSI: Collaborative Project: FAMI: High performance and scalable fabric analysis, monitoring and introspection infrastructure for HPC and Big Data



Alan Ritter, Assistant Professor, Computer Science and Engineering

Carnegie-Mellon University: Events, relationships, and script learning for situational awareness



P. (Saday) Sadayappan, Professor, Computer Science and Engineering
Atanas Rountev, Professor, Computer Science and Engineering

Lawrence Livermore National Laboratory: Exascale code generation toolkit



Ness Shroff, Ohio Eminent Scholar, Computer Science and Engineering
Atilla Eryilmaz, Associate Professor, Electrical and Computer Engineering

NSF Div of Computer & Network Systems: ICN-WEN: Collaborative research: SPLICE:
 Secure predictive low-latency informationcentric edge for next generation wireless networks



Ness Shroff, Ohio Eminent Scholar, Computer Science and Engineering
Jia Liu, Research Assistant Professor, Electrical and Computer Engineering
Yin Sun, Research Associate, Electrical and Computer Engineering (not pictured)

Office of Naval Research: Achieving low delay and highly adaptive tactical networking with
 multi-path TCP



Kannan Srinivasan, Associate Professor, Computer Science and Engineering
Prasun Sinha, Professor, Computer Science and Engineering

Office of Naval Research: Joint neighbor identification and channel estimation for
 enabling advanced MAC-PHY techniques in ad hoc networks



Srinivasan Parthasarathy, Professor, Computer Science and Engineering
Catherine Calder, Professor, Statistics
**Bethany L. Boetther, Senior Research Associate, Population Research
 Center (not pictured)**
Christopher R. Browning, ASC Distinguished Professor, Sociology

Nat Inst Child Health & Human Development: Adolescent health in an urban
 environment



Christopher Stewart, Associate Professor, Computer Science and Engineering

NSF Div Computer & Network Systems: (PSC) CNS: Travel support for the 2017 international
 conference on Autonomic Computing



Xiaodong Zhang, Critchfield Endowed Chair, Computer Science and Engineering

NSF Div Computer and Network Systems: (PSC) Travel Support for the 37th IEEE international
 conference on distributed computing systems



Xiaodong Zhang, Critchfield Endowed Chair, Computer Science and Engineering
Rubao Li, Senior Research Scientist, Computer Science and Engineering

Huawei Technologies: Research on High-performance database system over GPU devices
 and fast RDMA

2017 CSE SCHOLARSHIPS & AWARDS



Left: AI Cline presents Jarrod Manguiat with The Leggett Family Award Endowment Fund.



Above: Tyler Collison receives the ACM award from faculty emeritus Clint Foulk.



Below: Wayne Heym gives Adam Ovak one of the CSE Undergraduate Scholarships.



Above: Advisory board member, Dana Vantrease, honors Sarah Flanagan and Claire Hansel with the Women in Computer Science Scholarship.

Right: Guests enjoying the 21st Annual CSE Awards Banquet.



2017 CSE SCHOLARSHIPS & AWARDS

2017 CSE SCHOLARSHIPS AND AWARDS TO STUDENTS, FACULTY AND STAFF MEMBERS

The department endowments donated from alumni and friends make it possible to offer many scholarships and awards to recognize the excellence and accomplishments of our students, faculty and staff members. The following scholarship funds and awards recognize many familiar names of faculty and alumni, which reflect the donations to the department. The department will host the 2018 Annual Awards Banquet in Spring 2018, where we again recognize many CSE family members.

SCHOLARSHIPS

Central Ohio Chapter of Association of Computing Machinery (ACM)

Tyler Collison

Ernest William Leggett, Jr. Scholarship The Legget Family Award Endowment Fund

Jarrod Manguiat
Alexander Morgan

The O'Connell Family Award

Zachary Allegretti
Caleb Lehman
Eleanor Myer
Alexander Toney

Ten-Hwang Lai Scholarship

Cole Albers
Brian Baker
Jonathan Huang
Dylan Knaplund
Chen Zhang

Women in Computer Science Scholarship

Sarah Flanagan
Claire Hansel

The Steve and Bridget Dritz Scholarship

Joshua Kahn

Wael Bahaa-El-Din Scholarship

Thomas Burnett
Paul Gillen

Founders of the Computer Science and Engineering Department Scholarship Endowment Fund

Matias Gioni
Sean Nemann
Vilas Winstein

Alumni Undergraduate Scholarship

Nathan Balli
Benjamin Clarke
Christopher Ellis
Kevin Hernandez
Tyler Terbrack

CSE Undergraduate Scholarship

Paul Costinescu
Adam Ovak

Undergraduate Research Award

Danny Flax

DEPARTMENT AWARDS

B. Chandrasekaran & Sandra Mamrak Graduate Fellowship

Aniket Chakrabarti

Chair's Service Award

Dr. Meris Mandernach

Undergraduate Research Faculty Advising Award

Dr. Rephael Wenger

Eleanor Quinlan Award

Timothy Carpenter

Joel and Ruth Spira Excellence in Teaching Award from Lutron Electronics

Dr. Neelam Soundarajan

Outstanding Teaching Award

Michael Fritz
Chris Kiel
Dr. Anastasios Sidiropoulos

Outstanding Service Award

Dr. Arnab Nandi
Kathryn Reeves
Nikki Strader

Honorable Mentions for Contributions to OHI/O Hackathon

ACM-W
Big Data Analytics Association
Buckeye Hackers
Collegiate Web Developers Group
Mobile Developers Club
Open Source Club
Wikipedia Connections Club



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Many Thanks to Our Alumni and Friends!

We appreciate the following alumni, faculty, staff and friends who directed their Ohio State gifts to the Computer Science and Engineering Department. Listed below are our benefactors over the past six months. These donations are making a difference. Private support can help us to attract outstanding students and promising young faculty.

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