

BUCKEYE BLOG



THE OHIO STATE UNIVERSITY

COLLEGE OF ENGINEERING

www.cse.osu.edu



Dear CSE Alumni, Parents, Friends and Colleagues,

Welcome to the Buckeye Blog Winter 2017! In this issue, we cover several national awards our faculty members received along with recognizing the impact made by our faculty research to industries and the society. I am glad to inform you that we have recently received another scholarship fund established by our alumni: Michael and Dina Morell CSE Scholarship Fund. With the strong support from alumni, we now have a long list of scholarship funds to support students within the department. These student scholarships are in different formats. Some were established to celebrate professors' contributions, such as the Mike Liu Scholarship, the B. Chandrasekaran and Sandra Mamrak Scholarship, the Steve Lai Scholarship, and the CSE Founders' Scholarship. Others were established for selective student activities and recognitions, such as the Woman in Computer Science Scholarship, the Alumni Undergraduate Scholarship, the Wael-Hilal M. Bahaa-El Din Scholarship for Applied System Performance, and the Quinlan Memorial Scholarship for TA's. With these scholarship funds, we are able to recognize a large number of excellent undergraduate and graduate students at the annual department awards banquet. We have also established department fellowships to attract first year Ph.D. students based on the contributions from alumni.

We are grateful for your contributions, and look forward to your continuous support.

Happy New Year, and best wishes to you in 2017!

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

167 MS Students
 238 PhD Students

Undergraduate

698 Computer Science and Engineering Majors
 638 Computer Science and Engineering Pre-Majors
 213 Computer and Information Science Majors
 301 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

6,270 BS Alumni
 330 BA Alumni
 2,463MS Alumni
 594 PhD Alumni

FACULTY UPDATES

Arnab Nandi: Recipient of the IEEE Technical Committee on Data Engineering Early Career Award



Arnab Nandi, Assistant Professor with CSE, was awarded the 2016 IEEE Technical Committee on Data Engineering Early Career Award for his contributions towards user-focused data interaction: building data analysis, exploration and querying systems that allow highly interaction experiences for end users.

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. The award is given to an individual (if there is at least one qualified candidate) and consists of a plaque to the awardee. Arnab received the award at the annual IEEE ICDE Conference during the awards session.

Faculty Promotions

The CSE Department would like to congratulate those faculty who received promotions this academic year.

From Assistant Professor to Associate Professor with tenure:

Michel Bond



Nicoleta Roman



Kannan Srinivasan



Christopher Stewart



From Clinical Associate Professor to Clinical Professor:

Rajiv Ramnath



From Associate Professor to Full Professor:

Eric Fosler-Lussier



NEW FACULTY JOINED COMPUTER SCIENCE AND ENGINEERING AUTUMN 2016



Wei Xu joined the Department of Computer Science and Engineering at The Ohio State University as an assistant professor, after her two year post doctoral work at the University of Pennsylvania . She received her Ph.D. in computer science in 2014 from New York University and her research area is in natural language processing.

Bryan Choi joined The Ohio State University as an assistant professor in Cyberlaw, Cybersecurity and Cyberspace. Bryan completed his undergraduate degree in Computer Science from Harvard University where he also completed his law degree.



Two CSE Professors Named IEEE Fellows

The Institute of Electronics and Electrical Engineers (IEEE) has named two Department of Computer Science and Engineering Professors to the level of Fellow in the Class of 2017. IEEE recognized Dr. Tamal Dey for his contributions to Geometric Computing and Dr. Prasun Sinha is recognized for his contributions to Scheduling and Resource Allocations in Wireless Networks.

The IEEE grade of Fellow is conferred by the IEEE Board of Directors upon a person with an outstanding record of accomplishments in any of the IEEE fields of interest. IEEE Fellow is the highest grade of membership and is recognized by the technical community as a prestigious honor and an important career achievement.

A leader in the field of geometric computing, **Dr. Tamal Dey** has made several fundamental research contributions over the last twenty five years. His research has advanced theoretical/practical understanding of several geometric/topological problems arising in application areas of science and engineering. Specifically, his work on surface reconstruction, mesh generation, and topological data analysis have found applications in computer graphics, geometric modeling, visualization, shape and data analysis. One of the hallmarks of Dey's work is his development of algorithms with theoretical guarantees that are useful in practice. This claim is attested to in the wide use of number of the software based on these algorithms. The most widely used geometric library and The Computational Geometry Algorithms Library (CGAL), incorporates several of his results. The Cocone software developed by his group for surface reconstruction is widely used in academia and industry. His team developed the DelPSC software which has been a basis for Synopsis to develop a new mesh generation software. Dr. Dey has written highly influential papers on a broad range of topics in geometric and topological computing and authored two books. He serves on several editorial boards of journals in geometric computing and lectures widely on the topic of geometric and topological computing in various academic forums.



The research of **Dr. Prasun Sinha** has led to new paradigms of communication in managed wireless networks like cellular networks and enterprise wireless local area networks. His work on resource allocation considers various practical limitations and new challenges in the areas of uplink transmission, renewable energy based networking, disconnected operations, asynchronous communication and full-duplex networking. Prasun's other research interests include vehicular networks, indoor localization, outdoor localization and low power sensing.

Dr. Sinha's research has been funded primarily through National Science Foundation (NSF), DARPA, Toyota, Huawei and Honda. He has led multiple \$1M+ cross-university, cross-disciplinary projects. In 2006, he won an NSF CAREER award. He has chaired/co-chaired six conferences, including MobiCom 2014, the flagship conference in wireless networking and mobile computing. Next year he will be the Technical Program co-chair for IEEE INFOCOM 2018, a leading conference in networking. He has authored 100+ publications and earned four (4) patents. One of his papers was awarded the Best Student Paper Award (WiOpt 2013) and two were selected as best paper finalists (ACM Mobicom 2014 and IEEE SECON 2007).



Research Innovation Drives an Industry-Leading Computational Geometry Engine in High Speed

The polygon overlay is a complex and time-consuming process to superimpose multiple geographic layers and their attributes to produce a new polygon layer. This process has become increasingly massive in the big data era from various applications, such as graphical information systems, electronic design automation, computer vision, image processing and motion planning solutions for robotics. The industry demands fast and efficient solutions for daily production tasks of spatial data analytics in many areas. A research innovation led by a group of Computer Science and Engineering researchers at Ohio State has timely responded to this need.

Dr. Akihiro Asahara, the CEO of Fixstars Solutions Inc. recently sent Dr. Kaibo Wang (CSE Ph.D'15) an acknowledgement letter to inform him that Fixstars has effectively developed the Geometric Performance Primitives (GPP) Library, an industry-leading and high speed computational geometry engine, based on Wang's work published in VLDB 2012. Dr. Asahara states, "Specifically, the PixelBox algorithm of yours lays a scientific foundation for massive polygon overlay operations, which enables us to achieve a huge performance advantage (up to 25 times faster) over other similar industry products." GPP has also been included in the GPU-Accelerated libraries of the NVIDIA Company.

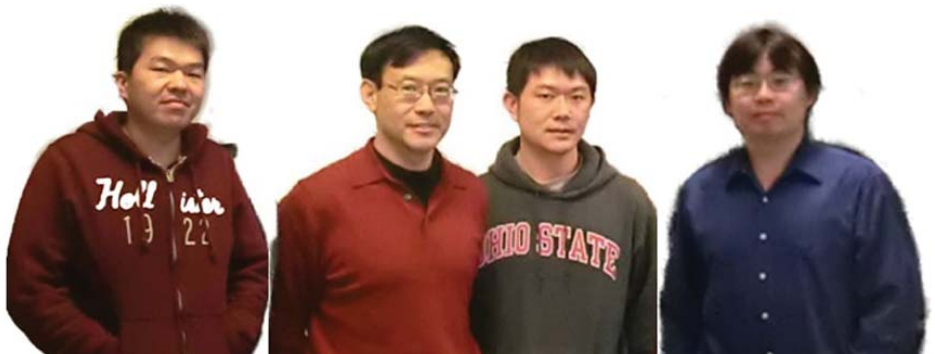
PixelBox is a fast parallel algorithm for massive polygon overlay operations, which is implemented in hybrid systems of both GPUs and multicore processors, and tested by pathology image analysis workloads from hospitals. This work entitled "Accelerating Pathology Image Data Cross-Comparison on CPU-GPU Hybrid Systems" was presented in the 38th International Conference on Very Large Databases in August 2012 in Istanbul, Turkey, and was published in the Proceedings of the VLDB Endowment, No. 5, No. 11 in 2012. The authors of the paper are Kaibo Wang, Yin Huai, Rubao Lee, Fusheng Wang, Xiaodong Zhang, and Joel H. Saltz.

Both Kaibo Wang and Yin Huai received their Ph.Ds. in Computer Science and Engineering at The Ohio State University in 2015 under the supervision of Professor Xiaodong Zhang. They now work at Google and Databricks, respectively. As students, each received the Department of Computer Science and Engineering Graduate Research Awards.

Rubao Lee is a Research Scientist in OSU-CSE. When the paper was published, Drs. Fusheng Wang and Joel Saltz were on Faculty in the Bioinformatics Department at Emory University, but are now faculty members at SUNY Stony Brook.

"I am very pleased to see how another basic research work of ours directly impacts on production systems, which is a high recognition to the value of our research efforts" says Xiaodong Zhang, the Robert M. Chritchfield Professor in Engineering and Chair of Computer Science and Engineering at The Ohio State Univeristy. Several published research results in computer systems and data management from his group have been widely adopted in production systems of both hardware and software. This research impact has also been reported by ACM Technology News in January, 2017.

Pictured from left to right: Yin Huai, Xiaodong Zhang, Kaibo Wang and Rubao Lee



MVAPICH Speeds to #1

At the recent Supercomputing '16 Conference, it was revealed that the MVAPICH software, created by Dr. DK Panda and the NOWLab team, is powering the fastest computer on Earth, the Sunway TaihuLight, at the National Supercomputing Center in Wuxi, China. This system is a 10,649,600-core with a peak performance at 125.4 PetaFlops, which translates to 125 quadrillion calculations per second. Its intended purposes are oil prospecting, life sciences, weather forecast, industrial design, and drug research.

MVAPICH (Message Passing Interface for InfiniBand), pronounced “em-vah-pich”, celebrates its 15th anniversary this year. The software improves the processing by connecting traditional supercomputing software with innovative networking technologies and protocols, thus increasing the data flow speed in a significant manner. It delivers the best performance, scalability and fault tolerance for high-end computing systems and servers using InfiniBand, Omni-Path, Ethernet/iWARP, and RoCE networking technologies. This software is being used by more than 2,675 organizations in 83 countries worldwide to extract the potential of these emerging networking technologies for modern systems. As of November 2016, more than 402,000 downloads have taken place from the project’s site. This software is also being distributed by many vendors as part of their software distributions.

Dr. DK Panda and the members of the NOWLab: Network Based Computing Lab is a vital part of CSE’s research efforts. Over the years members have won multiple awards and best paper recognitions at various conferences, including SC '16. In 2011, the The Ohio State University College of Engineering recognized Dr. Panda with the Innovator Award and in 2015 The Ohio State University named him a Distinguished Scholar.



Pictured above left to right

Back Row: Sourav Chakraborty, Dr. Hari Subramoni, Akshay Venkatesh, Jie Zhang, Mingzhe Li, Jeff Smith, Ammar Awan, Wasiur Rahman, Mamzi Bayatpour

Front Row: Dipti Shankar, Shashank Gugnani, Jahanzeb Hashmi, Dr. Khaled Hamidouche, Prof. D. K. Panda, Dr. Xiaoyi Lu, Ching-Hsiang Chu, Nusrat Islam

BEST COMMUNITY PAPER AWARD AT MOBICOM 2016

In October, Computer Science and Engineering students and faculty of The Ohio State University received the Best Community Paper Award at the ACM Conference on Mobile Computing and Networking (MobiCom), 2016. MobiCom is a flagship conference in the area of mobile computing and wireless networking. The conference accepted only 32 papers out of 226 submissions (14.2%). From those, two were recognized for their excellence: one paper for the Best Community Paper Award, and another one for the Best Paper Award.

Led and supervised by CSE Assistant Professor Chunyi Peng, the research work was conducted by CSE Ph.D. student Haotian Deng collaborating with Ph.D. candidates Yuanjie Li and Zengwen Yuan of UCLA. The paper, titled “MobileInsight: Extracting and Analyzing Cellular Network Information on Smartphones,” details their creation of the first in-device software tool, MobileInsight, which monitors and analyzes cellular network protocol behaviors and states using commercial off-the-shelf phones. Since it offers open-access to fine-grained runtime network operations without any extra hardware or additional data from carrier networks, it bridges the gap between the research community and industry making it possible and easy for researchers and developers to accurately understand and refine how cellular protocols operate at the device and inside the network. Since its release in June 2016, more than 40 groups across the world including the USA, UK, Germany, France, Korea and China have downloaded and used this tool.

For Haotian Deng this has been a successful year. He has also co-authored two other conference accepted papers, one in NSDI’16 and one in SIGMETRICS’16. They are the top venues in the fields of computer and networking systems.



Pictured from left to right: Chunyi Peng (CSE faculty, OSU), Charlie Hu (MobiCom’16 Program co-Chair), Karthik Sundaresan (MobiCom’16 Program co-Chair), Zengwen Yuan (PhD student, UCLA), Yuanjie Li (PhD student, UCLA), Haotian Deng (CSE PhD Student, OSU).

FOURTH ANNUAL HACKOHI/O 2016

On the weekend of November 19-20, 2016 over 750 students from around the Midwest and beyond converged in the Ohio Union for Ohio State’s fourth annual hackathon, HackOHI/O 2016.

For 24 hours, students worked in teams to build prototypes to solve real-world problems for the chance to win over \$8,000 in prizes.

Top companies from around Ohio (and the nation) sponsored the event and attended to mentor and recruit the talent on display - including Amazon Web Services, JPMorgan Chase & Co., Wexner Medical Center, Aver, JobsOhio, Capital One, Battelle, Harris, Paxata, Esri, CAS, GitHub, Namecheap, Accenture, Rev1 Ventures, Nationwide Insurance, TEKSystems, Hyland, Nationwide Children’s Hospital, Translational Data Analytics, CoverMyMeds, Exact, Cisco, Microsoft, Pillar and IBM.

Nearly doubling in attendance every year since its start, the event has also attracted a wider diversity in attendance. Not just computer science students - but also majors such as violin performance and psychology.

The number of women in attendance has also increased year after year, exceeding the gender ratio in typical computer science classrooms by 25%. Many undeclared students attended to try out the tech field and make more informed decisions in their studies.



Best Paper Honorable Mention Award in the IEEE Visualization Conference 2016

A collaborative research project between Ph.D. students Soumya Dutta, Chun-Ming Chen, in the visualization research group led by Prof. Han-Wei Shen, and Mechanical and Aerospace Engineering PhD student Gregory Heinlein and Prof. Jen-Ping Chen, has won a Best Paper Honorable Mention Award at the IEEE Visualization Conference 2016. IEEE Visualization is a premier visualization conference and is considered as the top publication venue for visualization and computer graphics researchers.

The paper “In Situ Distribution Guided Analysis and Visualization of Transonic Jet Engine Simulations” demonstrates an in situ distribution guided data summarization and visual analytics approach to help understand the rotating stall phenomenon in transonic jet engine compressors. The CFD simulation code TURBO, used in this work, is a state-of-the-art Navier-Stokes based, time-accurate computational fluid dynamics simulator. Despite the proven high modeling accuracy of TURBO, the excessive simulation data prohibits traditional post-processing based analysis in both storage and I/O time. This work addresses these big data issues and proposes an alternative in situ analysis pathway for the study of rotating stall. The proposed technique summarizes statistics of important properties of the simulation data directly while the simulation is running using a probabilistic data modeling scheme. This in situ data summarization enables flexible and scalable anomaly detection for flow instability in post analysis, which reveals the spatiotemporal trends of rotating stall. Furthermore, the verification of the hypotheses and exploratory visualization using the summarized data are realized using probabilistic visualization techniques such as uncertain isocontouring.

Pictured from left to right: Prof. Jen-Ping Chen, Mechanical Engineering Department; Prof. Han-Wei Shen, CSE; Jimmy Chun,-Ming Chen, former CSE Ph.D. now at Google; Soumya Dutta, Ph.D. CSE student; Jim Ahrens, paper chair of IEEE SciVis 2016



Best Poster Award at SC'16: Sourav Chakraborty

Sourav Chakraborty, a Ph.D. student in Prof. Dhableswar K. Panda's group, has received the Best Poster Award under ACM Graduate Student Research Competition at the recent Supercomputing 2016 conference, held in Salt Lake City. The poster titled “Job Startup at Exascale: Challenges and Solutions” provides a novel framework to solve starting MPI and PGAS jobs on emerging Exascale systems.



Pictured above are Sourav Chakraborty (Right) and Dr. Hari Subramoni (Left), a Research Scientist in Prof. Panda's team and a mentor for Sourav.

FACULTY GRANTS



Gagan Agrawal, Professor; Ching-Shan Chou, Associate Professor, Department of Mathematics; Mircea-Radu Teodorescu, Associate Professor

NSF Div Computing & Communication Fdn: Integrating programming model, runtime, algorithmic, and architectural support to use inexact and heterogeneous hardware for scientific computations.



Anish Arora, Professor

New York University: SONYC: A cyber-physical system for monitoring, analysis and mitigation of urban noise pollution



Mikhail Belkin, Associate Professor; Per Sederberg, Associate Professor, Department of Psychology

NSF Div Info and Intelligent Systems: Collaborative research: NCS-FO: Learning efficient visual representations from realistic environments across time scales.



Michael Bond, Associate Professor

NSF Div Computing & Communication Fdn: Collaborative Research: Rethinking architecture support for memory consistency



Eric Fosler-Lussier, Professor; Michael White, Associate Professor, Department of Linguistics; Douglas R. Danforth, Associate Professor, College of Medicine; William Schuler, Associate Professor, Department of Linguistics

NSF Div Infor and Intelligent Systems: Using automatically generated paraphrases and discriminative ASR training to author robust questions-answering dialogue systems



Dhabaleswar K. (DK) Panda, Professor and University Distinguished Scholar

NSF Div Advanced Cyberinfrastructure: Student travel support for MVAPICH user group (MUG)



Dhabaleswar K. (DK) Panda, Professor and University Distinguished Scholar; Khaled Hamidouche, Research Scientist; Hari Subramoni, Research Scientist; Karen Tomko, Senior Researcher

NSF Div Advanced Cyberinfrastructure: Student travel support for MVAPICH user group (MUG)



Dhabaleswar K. (DK) Panda, Professor and University Distinguished Scholar; Xiaoyi Lu, Research Scientist; Hari Subramoni, Research Scientist

NSF Div Info and Intelligent Systems: MIDWEST: Collaborative: Advanced computational neuroscience network (ACNN)



Rajiv Ramnath, Clinical Professor

Astute Solutions Inc.: Information retrieval techniques for social customer relationship management (CRM) systems

Nationwide Mutual Insurance Company: Integrating telematics data with other data sources to develop models of driver risk



Alan Ritter, Assistant Professor

Leidos, Inc.: Extracting a realtime cybersecurity knowledge graph from text



P. (Saday) Sadayappan, Professor

RNET Technologies: Performance portable framework for developing graph applications



P. (Saday) Sadayappan, Professor; Srinivasan Parthasarathy, Professor

NSF Div Computing & Communication Fdn

Towards automated characterization of the data-movement complexity of large scale analytics applications

Collaborative Research: PARAGRAPH: Parallel, scalable graph analytics



Ness Shroff, Ohio Eminent Scholar; Can EMRE Koksal, Associate Professor, Electrical and Computer Engineering; Kubilay Sertel, Associate Professor, Electrical and Computer Engineering

NSF Div of Computer & Network Systems: Enabling mobile mmWave communication: Achieving low power and delay via a hybrid RF design



Prasun Sinha, Professor

NSF Div of Computer & Network Systems: Infrastructure-free robust relative localization of vehicles on the road



DeLiang (Leon) Wang, Professor and University Distinguished Scholar; Eric Healy, Professor, Department of Speech and Hearing Science; Frederic Apoux, Research Scientist

Nat In Deafness & Other Communication Disorders: Improving intelligibility in noise for hearing-impaired listeners



Yusu Wang, Associate Professor

NSF Div Computing & Communication Fdn: Collaborative Research: Geometric and topological algorithms for analyzing road network data



Xiaodong Zhang, R.M. Critchfield Professor in Engineering

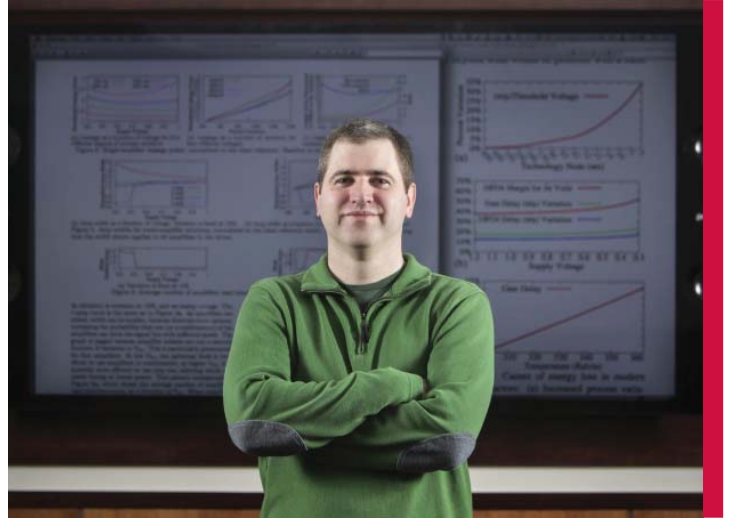
NSF Div Computing & Communication Fdn: Maximizing the performance potential and reliability of flash-based solid state devices for future storage systems

NSF Div of Computer & Network Systems: Travel Support for the 36th IEEE International Conference on Distributed Computing Systems (ICDCS2016)

CSE ALUMNUS PUSHING COMPUTING POWER TO THE NEXT LEVEL

CSE Alumnus, Timothy Miller, assistant professor at Binghamton University in computer science partnered with Aaron Carpenter and graduate student Philip Dexterm, along with co-author Jeff Bush, have developed Nyami, a synthesizable graphics processor unit (GPU) architectural model for general-purpose and graphics-specific workloads. This marks the first time a team has taken an open-source GPU design and run a series of experiments on it to see how different hardware and software configurations would affect the circuit's performance.

According to Miller, the results will help other scientists make their own GPUs and push computing power to the next level.



“As a researcher, it’s important to have tools for realistically evaluating new ideas that may improve performance, energy efficiency, or other challenges in processor architecture,” Miller said. “While simulators may take shortcuts, an actual synthesizable open source processor can’t cut any corners, so we can say that any experimental results we get are especially reliable.”

GPUs have existed for about 40 years and are typically found on commercial video or graphics cards inside of a computer or gaming console.

The specialized circuits have computing power designed to make images appear smoother and more vibrant on a screen. There has recently been a movement to see if the chip can be applied to non-graphical computations such as algorithms processing large chunks of data.

The open-source GPU that the Binghamton team used for their research was the first of its kind. Although thousands of GPUs are produced each year commercially, this is the first that can be modified by enthusiasts and researchers to get a sense of how changes may affect mainstream chips. Bush, the director of software engineering at Roku, was the lead author on the paper.

“It was bad for the open-source community that GPU manufacturers had all decided to keep their chip specifications secret. That prevented open source developers from writing software that could utilize that hardware,” Miller said. Miller began working on similar projects in 2004, while Bush started working on Nyami in 2010. “This makes it easier for other researchers to conduct experiments of their own, because they don’t have to reinvent the wheel. With contributions from the ‘open hardware’ community, we can incorporate more creative ideas and produce an increasingly better tool.”

The ramifications of the findings could make processors easier for researchers to work with and explore different design tradeoffs. Dexter, Miller, Carpenter and Bush have paved a new road that could lead to discoveries affecting everything from space travel to heart surgery.

The paper, “Nyami: A Synthesizable GPU Architectural Model for General-Purpose and Graphics-Specific Workloads” appeared in *International Symposium on Performance Analysis of Systems and Software*.

Allen Parrish receives 2016 ABET Fellow Award

Allen Parrish, a graduate of the University of Tennessee at Martin for his bachelor's and a graduate of The Ohio State University for his master's and doctorate in computer and information science has been recently awarded the 2016 ABET Fellow Award. Allen received this Fellow Award for advancement of computing education and accreditation by contributions to criteria reform and the development of program criteria for cybersecurity involving industry, university, governmental and military constituencies.

Allen is now the Chair and professor in the Department of Cyber Science at the U.S. Naval Academy. There he is shedding light on cyber defense practices that can be implemented for diversion tactics and protection of the U.S. government and its citizens.



ALUMNI UPDATES



Steven Harman BA '04, is the co-founder of DirtJockey, Inc. He and a team of brilliant people are building software for the heavy equipment industry. In his past, he has launched products ranging from CLIs, to HTTP APIs, to mobile-first web apps. He has long focused on helping developers improve their software design skills. He helps customers explore problem domains to cut to the heart of their problems. His focus is on domain modeling, simplicity in design, and clarifying the intent of code.

A few years ago Steven married Rebecca. She is a professional photographer, former professional ballerina, and architectural historian. They have two young, vibrant boys.

William Stephens, BS '98, has opened a Columbus, OH based software development office for Silicon Valley startup Paxata. His solution provides data preparation features to allow business and technical users to import, clean, enhance, filter and export high quality data sets to support the production of quality data analytics. He is seeking talented individuals to join his Ohio team.



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 us your updates, photographs and suggestions to Tiffany McGough at mcgough.22@osu.edu.

NEW DEPARTMENT SCHOLARSHIPS

Michael & Dina Morell Computer Science and Engineering Scholarship Fund

Michael A. Morell (BS '93) & his wife Dina (Ricottilli) Morell established a CSE Scholarship fund with an initial contribution of \$100,000. This endowed fund was approved by the Board of Directors of The Ohio State University Foundation on September 2, 2016. In creating the scholarship fund, Michael and Dina wanted to make a meaningful impact in education and believe that by removing some of the financial burden on students, it would allow the next generation to focus on innovation.

Upon graduation, Michael was commissioned and served on active duty with the US Air Force. In 2002, he founded Riviera Partners, a search firm focused on placing senior software executives in Silicon Valley, New York and Los Angeles. Michael is an active investor and advisor to technology companies. They reside in San Francisco, CA



Department of Computer Science and Engineering Scholarships

Alumni Undergraduate Scholarships

Established: 2012 Awarded: 33

B. Chandrasekaran & Sandra Mamrak Graduate Fellowship

Established: 2013 Awarded: 5

Eleanor Quinlan Award

Established: 2001 Awarded: 15

Founders of the Computer Science and Engineering Department Scholarship Endowment Fund

Established: 2012 Awarded: 5

Mike Liu Graduate Fellowship Award

Established: 2010 Awarded: 7

Ten-Hwang (Steve) Lai Scholarship

Established: 2015 Awarded: 2

Wael - Hilal M. Bahaa-El-Din Scholarship for Applied System Performance

Established: 2015 Awarded: 2

Women in Computer Science Scholarship

Established: 2015 Awarded: 2

2016 CSE SCHOLARSHIPS & AWARDS

2016 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 2017 Annual Awards Banquet in March 2017, where we again recognize many CSE awardees.

SCHOLARSHIPS

Central Ohio Chapter of Association of Computing Machinery (ACM)

Maxwell Pettit

Crowe Horwath Scholarship

Alexander Vavra

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

Reece Holl

Thomas Kiener

Harris Corporation Scholarship

Mariamawit Alula

The O'Connell Family Award

Gweneveir Stevens

Ten-Hwang Lai Scholarship

Eric Soppi

Xu Weng

Women in Computer Science Scholarship

Marielle Edrienne Co

Undergraduate Research Award

Ross Vasko

Wael Bahaa-El-Din Scholarship

Christian Diederich

Adam Wheeler

Founders of the Computer Science and Engineering Department Scholarship Endowment Fund

Saad Asim

Frederick Gu

Alec Haas

Livia Stanley

Alumni Undergraduate Scholarships

Bryan Arnold

Matthew Bartholomew

Bryon Foltz

Samuel Kampen

Frank Patrizio

Oscar Rubio

Sina Sabet

David Soller

Zachary Schroeder

Caitlin Talbot

Logan Wilson

DEPARTMENT AWARDS

B. Chandrasekaran & Sandra Mamrak Graduate Fellowship

Donald Williamson

Mike Liu Graduate Fellowship Award

Anys Bacha

Ten-Hwang Lai Fellowship Award

Swarnendu Biswas

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

Yuan Yuan

Outstanding Teaching Award

Dr. Matthew Boggus

Dr. Neelam Soundarajan

Eleanor Quinlan Award

Arjun Bakshi

Outstanding Service Award

Donald Havard

Joel and Ruth Spira Excellence in Teaching Award from Lutron Electronics

Dr. P. (Saday) Sadayappan



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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.

Individuals

Catherine Agacinski
Carole A. Aizenman
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Kyle K. Thompson
Karen A. Tomko
William E. Triest
Bobby R. Vandalore
Tec Welch
Chris Woodruff
Tao-Heng A. Yang

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Aver Informatics Inc.
Battelle Memorial
Institute
Belden Wire & Cable Co
Benevity Community
Impact Fund
Benevity Community
Impact Fund for Microsoft
CA Technologies
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Service
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Research Institute Inc
Ericsson

Github Inc
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