

FEBRUARY 2023 VOL. 2

THE CSE CORNER

UNDERGRADUATE NEWSLETTER FOR DEPARTMENT OF
COMPUTER SCIENCE & ENGINEERING



**WHAT'S IN THIS
MONTH'S ISSUE:**

**PREPARING FOR A
NEW SEMESTER**



MISSISSIPPI STATE
UNIVERSITY™

A WELCOME LETTER FROM OUR DEPARTMENT HEAD, DR. SHAHRAM RAHIMI



"Welcome to the Department of Computer Science and Engineering (CSE) at Mississippi State University. CSE is one of the largest and fastest-growing departments in the Bagley College of Engineering and the university. The department strives to train the next generation of computer scientists and engineers who will be prepared to enter a rapidly growing technology field, which currently forms 63% of all STEM jobs in the nation."

"Our department's faculty is globally recognized in interdisciplinary research and development. Our researchers focus on artificial intelligence and machine learning, cyber security, robotics, human computing interaction, big data analytics, augmented and virtual reality, software engineering, visualization and high-performance computing, providing our students with a wide variety of areas in which to research and learn. Many of our researchers have received prestigious awards and control several million dollars in active research funding. Our programs empower graduates to be at the forefront of the current and next waves of innovation. We hope you'll join us in shaping the future of technology."

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BUTLER HALL



Butler Hall is home to the Department of Computer Science and Engineering. Research efforts concentrate on the areas of artificial intelligence, cyber security and forensics, high performance computing, software engineering, and visualization and computer graphics.

Computer Science and Engineering
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300 Butler Hall
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Our Students in Action at Butler Hall



A BIG, WARM WELCOME TO OUR
NEW STAFF MEMBER

Dr. Milaan Parmar
Postdoctoral Associate



"I am excited to be part of MSU's Computer Science and Engineering department as a postdoctoral associate. Me and my wife are in love with Starkville and its vibe. So far, working here has been fantastic since I've been able to broaden my research in machine learning and cybersecurity by collaborating with talented faculty members, and I'm passionate about sharing my research in pattern recognition and clustering algorithms by educating students to improve their skill sets."

CSE TUTORING CENTER

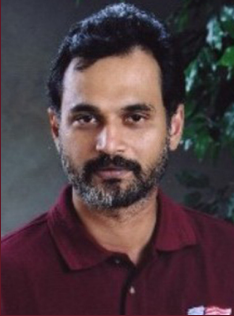
We offer tutoring sessions taught by our graduate students in Butler 209. Check out the schedule to meet with your respective TA!



TA	MON	TUE	WED	THU	FRI
Md Rayhan Amin	1 - 3:00 PM	1 - 3:00 PM			
Paul Barrett				1 - 3:00 PM	
Nathaniel Childers	12 - 3:00 PM		12 - 3:00 PM		
Garrett Fereday		2 - 5:00 PM		2 - 5:00 PM	
Eric Kudjoe Flah			10:00 AM - 12:00 PM 1:00 - 3:00 PM		
Zeenat Islam		1 - 4:00 PM			9:30 AM - 12:30 PM
Abhilash Kanduri			9:30 AM - 12:30 PM		9:30 AM - 12:30 PM
Litany Lineberry	9:30 AM - 12:30 PM	8:15 - 11:15 AM			
Rohini Maram		1 - 3:00 PM		9 - 11:00 AM	
D.J. Molsbarger	9 - 10:00 AM	9 - 10:00 AM	9 - 10:00 AM	9 - 10:00 AM	
Kendall Moore	1 - 3:00 PM			1 - 3:00 PM	
Phalguni Morla		3 - 4:30 PM		2 - 4:30 PM	
Vignaan Nampalli		8 - 10:00 AM		8 - 10:00 AM	
Tamanna Rashme			10:30 AM - 12:30 PM	1 - 4:00 PM	
Swayamjit Saha	11:15 AM - 12:15 PM				11:00 AM - 4:00 PM
Derek Willis	11:30 AM - 1:30 PM		9:30 AM - 1:30 PM		
Rakleen Zaman	11:10 AM - 12:10 PM 2 - 3:00 PM		2 - 3:00 PM	3:20 - 4:20 PM	

CSE Hall of Fame

A moment of recognition for our outstanding students and faculty to showcase their recent achievements.



Dr. Mahalingam Ramkumar and Nisha Pillai's article titled "An ensemble learning approach to identify pastured poultry farm practice variables and soil constituents that promote Salmonella prevalence" was published in the journal Heliyon. Dr. Ramkumar is an associate professor and Pillai is a post-doctoral student in the CSE department.



Dr. Edward Swan, a professor within the CSE department, published a paper with two professors from other universities titled "Perceptual Issues in Augmented Reality Revisited" that won the 2022 Impact Paper Award from the IEE Internation Symposium on Mixed and Augmented Reality.

CSE Hall of Fame



Dr. Cindy Bethel, Professor and Director of the Social, Therapeutic & Robotic Systems Lab was recently awarded the Billie J. Ball Endowed Professorship in Engineering by the Dean. She also led a successful panel at AI for Good in November where she spoke on the use of social robots for educational and therapeutic purposes.



Dr. Edward Luke was chosen to be a Virginia Carron Eiland and Brent Eiland Endowed Professor.



Dr. George J. Trawick, an Associate Clinical Professor, was named the Cyber Program Coordinator.



Dr. Stephen Torri, an Associate Professor, was chosen to be a Mary Lyn and Niles Moseley Endowed Chair in Cybersecurity.

STUDENT SPOTLIGHT

MSU welcomed its largest incoming class of Presidential Scholars for 2022-2023. We are proud to say **five** of those students are our own.

- Jenna Kasselmann
- Kylar DeLoach
- Jalen Nixon
- Christopher Martinez
- Rachel Guynes



Emma Wade, a senior computer science student, is Mississippi State's **first** Churchill Scholar. She is one of 16 students in the country to receive the Winston Churchill Foundation of the United States' 2023-24 award, which includes one fully covered year of master's study at Churchill College at Cambridge University in England, a stipend, and travel costs. Recipients can also apply for a \$4,000 special research grant.



Kendall Moore, Ph. D computer science student: "Things have come full circle for me through my studies at Mississippi State. A big part of why I wanted to study visualization and computer science was to make online games like the ones that helped me in my speech therapy program back in elementary school. If they helped me get to the point where I'm working on my Ph.D. and designing programs to help kids on the autism spectrum, we should be making these tools better and more widely available."



CSE alum Abdul Mohamed was chosen for the 2023 Black Engineer of the Year Award (BEYA). Mohamed is a researcher and a computer scientist in the Information Technology Laboratory's Scientific Software Branch of the U.S. Army Engineer Research Development Center. Mohamed was also rewarded the Modern-Day Technology Leader Award and was recognized at the 2023 BEYA STEM Conference.



NSF's Convergence Accelerator



Credit: National Science Foundation

Dr. Adam Jones



Dr. Adam Jones has been a part of research to Enhance Opportunities for Persons with Disabilities led by the National Science Foundation. This is a newly funded project in partnership with T.K. Martin Center of Technology and Disability, CAVS, Department of Counseling, Educational Psychology & Foundations, and MS Department of Rehabilitation Services.

CSE Speaker Seminar Series

The CSE department hosted four successful talks for our ongoing Speaker Series last semester. Our impressive lineup of speakers included a range of professors from other universities as well as scientists, lab directors, and more.



Dr. Donald R. Reising, an Associate Professor of Electrical Engineering with the University of Tennessee at Chattanooga, discussed his ongoing CI protection research.



Dr. Douglas Ghormley, a senior scientist at Sandia National Laboratories, spoke about securing America's critical infrastructures with Dr. Liston K. Purvis.



Dr. Liston K. Purvis, an Associate Professor at Columbia State University and Director of the Natural User Interaction Lab (NUILAB), joined Dr. Ghormley and also touched on securing the supply chain and third-party risk.



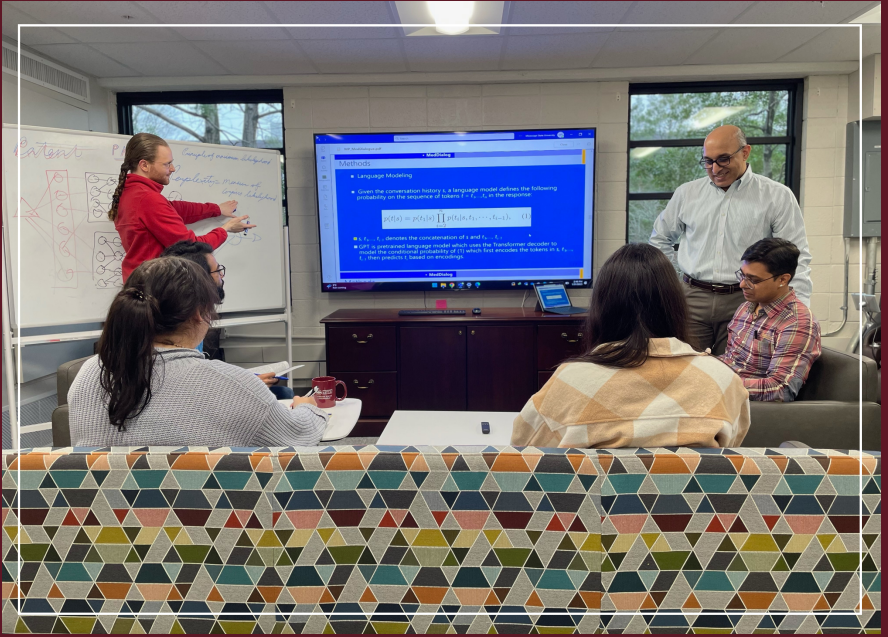
Dr. Francisco Ortega, an Associate Professor at Colorado State University and Director of the Natural User Interaction Lab (NUILAB), discussed the case for microgestures in augmented reality.



Dr. Abraham Matta, a Professor and Chair of Computer Science at Boston University, spoke about orchestrating cloud resources to optimize performance and cost.

DON'T MISS OUT ON THE EXCITING LINEUP WE HAVE FOR OUR SPEAKER SERIES THIS SEMESTER!

Predictive Analytics and Technology Integration Laboratory



The CSE department is proud to house the groundbreaking Predictive Analytics and Technology Integration (PATENT) Lab, which enables the development of an interdisciplinary team in AI, data science and machine learning that supports a variety of projects in engineering, social sciences, agriculture, and more. PATENT contributes to projects in predictive maintenance, healthcare management, cyber security, decision/policy support systems, internet of things, and smart cities, among others. As its core mission, PATENT investigates topics related to data integration and predictive analysis. With access to this innovative lab, we can't wait to see what our students accomplish next.

To learn more, visit patent.cse.msstate.edu

MCKAY PREDICTIVE ANALYTICS AND TECHNOLOGY INTEGRATION LABORATORY EXCELLENCE ENDOWMENT

Mississippi State alumnus Lamar McKay has endowed support to the James Worth Bagley College of Engineering. This endowment will aid ongoing support benefitting infrastructure, personnel, travel funds, and more to support the Predictive Analytics and Technology Integration Laboratory (PATENT).



Department head Dr. Rahimi stated: “This contribution is pivotal to the expansion of predictive analytics research and its technology integration in the state of Mississippi, and I cannot express my gratitude enough for this very generous gift. I have no doubt that his contribution will boost the speed of discovery and technology development in the area of predictive analytics across the nation.”

The CSE department's PATENT aims to target issues with data management, integration and analytics, in addition to predictive modeling and simulation. McKay's investment will help fund this groundbreaking lab and provide students with the opportunity to take part in research that greatly benefits not only their education but also the scientific industry as a whole.

CSE GRADUATE PROGRAM

ARE YOU READY TO TAKE THE NEXT STEP IN YOUR EDUCATION?



Dr. T.J. Jankun-Kelly
*Associate Professor and
Graduate Coordinator*
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tjk@cse.msstate.edu

There are three degrees in the graduate program for students to pick between:

- Master of Science in Computer Science
- Master of Science in Cybersecurity and Operations
- Doctor of Philosophy in Computer Science

Some graduate degrees are administered through other departments:

- M.S. and Ph.D. in Computer Engineering - Department of Electrical and Computer Engineering
- M.S. and Ph.D. in Computational Engineering - High Performance Computing Collaboratory
- Ph.D. in Engineering Education - College of Engineering.

CSE DISTANCE EDUCATION

INTERESTED IN EARNING YOUR GRADUATE DEGREE ONLINE?



Daphne Knox
*Manager of Graduate
and Distance Education*
662.325.5923
knox@bagley.msstate.edu

Check out the three distance education options that CSE offers:

- Master's in Cyber Security - requires 31 credit hours
- Master's in Computer Science - requires 31 credit hours
- Ph. D in Computer Science - requires 32 credit hours

**TOP 10 BEST ONLINE MASTER'S IN
CYBERSECURITY PROGRAMS FOR 2023
BY THE CYBERSECURITY GUIDE**



For more information, visit our website at
www.cse.msstate.edu

2023 DATA



**OVER
900
UNDERGRADUATE
AND GRADUATE
STUDENTS**



**OVER
150
UNDERGRADUATE
DEGREES AWARDED**



**80+
INTERNATIONAL
STUDENTS**



**APPROXIMATELY
120
MASTERS AND PH.D
STUDENTS**



**24 FACULTY
MEMBERS INCLUDING
4 ENDOWED PROFESSORS**



**21
MASTERS AND PH.D
DEGREES EARNED**



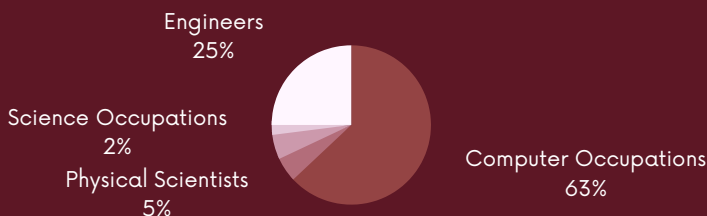
**OVER \$8
MILLION
IN RESEARCH EXPENDITURES**



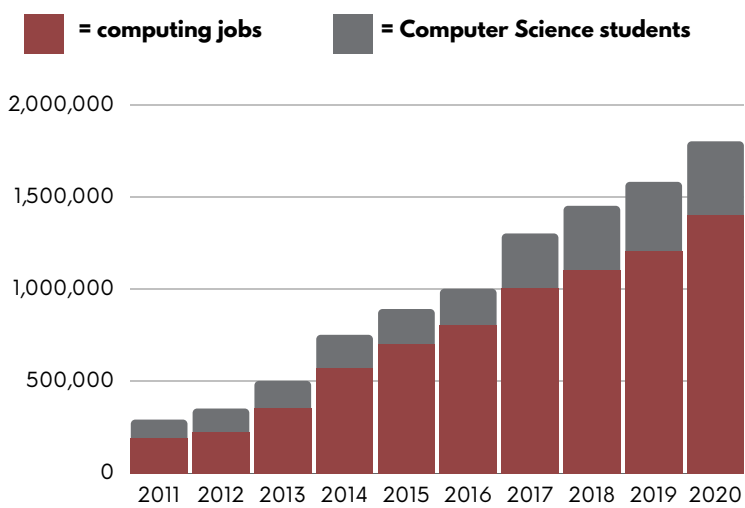
**\$60K+
IN SCHOLARSHIPS**

CSE STATISTICS

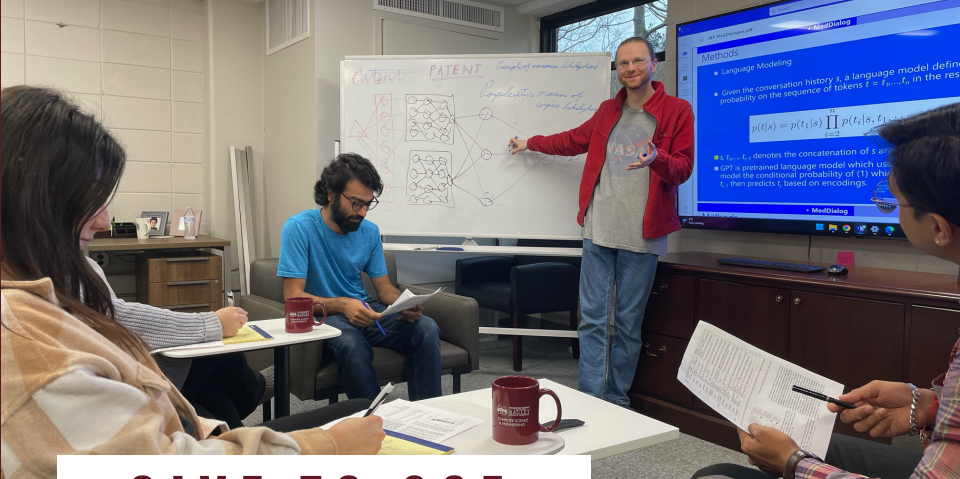
63% OF ALL NEW STEM JOBS ARE
IN COMPUTER SCIENCE



THERE ARE 4 JOBS FOR EVERY
COMPUTER SCIENCE GRADUATE, AND
THIS NUMBER IS ONLY GROWING



COMPUTER SCIENCE IS A TOP-PAYING COLLEGE
DEGREE AND COMPUTER PROGRAMMING JOBS
ARE GROWING AT 2X THE NATIONAL AVERAGE



GIVE TO CSE

It is with the generosity of people like you that we are able to make the Department of Computer Science and Engineering the very best it can be.

To learn more about the positive impact you can make, please visit www.msufoundation, scan our QR code, or contact us directly so we can address any questions you may have.

If you would like to make a contribution on the website listed above, simply enter our department in the "Designation" section of your donation.

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