

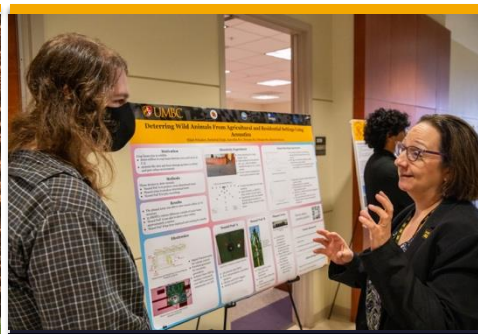
A Message from the Chair

The 2025–2026 academic year has brought notable challenges, including reductions in state appropriations to UMBC, tighter federal research funding, declining graduate enrollment, and shifting undergraduate interest away from computer science. Despite these pressures, our commitment to our mission remains steadfast, and CSEE, together with UMBC leadership, continues to support our students and strengthen the department. We are grateful that UMBC has limited the impact of state budget reductions on academic programs, allowing us to sustain our focus on inclusive excellence and student success. We have managed resources carefully, prioritizing support for our Ph.D. students, while continuing to grow our faculty, enhance the curriculum, and develop new programs. We have recently been approved to offer MS in Artificial Intelligence and MS in Applied Data Science starting in Fall 2026.

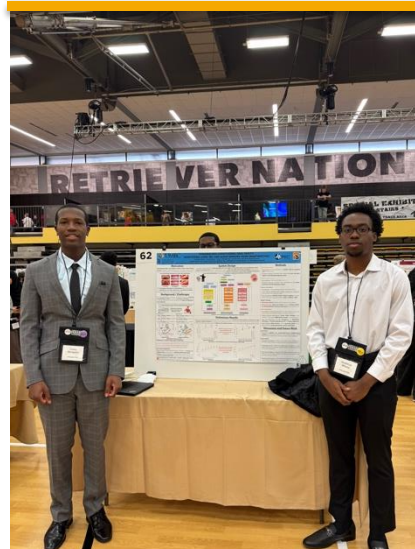
Our faculty and students continue to earn recognition for their achievements. We invite you to learn more in this issue of the newsletter.



BRAIN NSF IUCRC Center Annual Meeting and NSF AccelNet Meeting



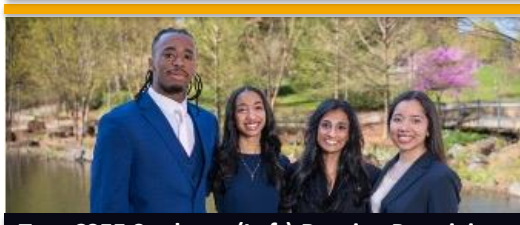
COEIT Summer Research Poster Session



CSEE Students Present at URCAD



CSEE Student (Right) Presents at CVPR 2025



Two CSEE Students (Left) Receive Prestigious Goldwater Scholarships



CSEE Outreach: Robot Demo at Local Daycare

IN THIS ISSUE

Honors & Promotions & New Hires

2

Innovation & Impact

6

Faculty Excellence: Awards & Recognition

3

Department Events & Student Achievements

7

Research Funding & Grants

4

Alumni Spotlight & 2025 Graduates

8

Professional Leadership & Invited Talks

5

Featured Highlights

Anupam Joshi

Named UMBC Vice Provost and Chief AI Officer



Photo by Brad Ziegler

CSEE Professor Anupam Joshi has been appointed UMBC's first Vice Provost and Chief AI Officer, shaping the university's AI strategy. Featured in Fortune, he continues to bridge AI and cybersecurity research with real-world impact. His leadership further strengthens UMBC's role in advancing innovation in AI and computing.

Timothy Finin

Named Emeritus Professor

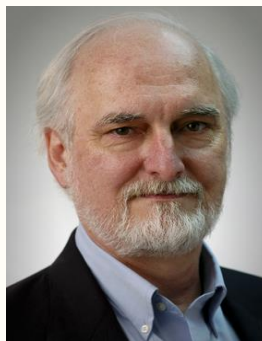


Photo from Wikipedia

CSEE Professor Timothy Finin retired after 34 years of service and was named Emeritus Professor, continuing as Director of the UMBC Center for AI as a part-time Research Professor. An ACM and AAAI Fellow and IEEE Technical Achievement Award recipient, he remains a leading figure in AI and semantic technologies.

Welcome New Faculty and Staff



Mehdi Kiani

Professor

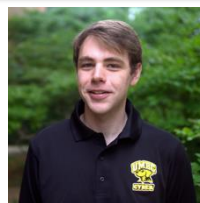
Low-Power ICs for Sensing, Wireless, and Biomedical Systems



Yiwen Hu

Assistant Professor

Mobile Systems, Networked Intelligence, and Network Security



Robert Joyce

Assistant Teaching Professor

Malware Analysis, Data Science, and Machine Learning



Michael J. Miller

Assistant Teaching Professor

Formal Reasoning, Computation Theory, and AI Limitations



Mark Woodcock

Assistant Teaching Professor

Formal Reasoning, Computation Theory, and AI Limitations



Zelalem J. Yalew

Assistant Teaching Professor

Ad-Hoc, Mesh, Cognitive Radio, Vehicular, Machine Learning, and IoT Networks



Skye Jonke

Specialist/Sysadmin

Linux System Administrator, and Lab Technical Support

Faculty Promotions



Don Engel

Associate Professor with Tenure

Don Engel has been promoted to Associate Professor with Tenure in recognition of his sustained contributions to research, teaching, and service within the department.



Masoud Soroush

Associate Teaching Professor

Masoud Soroush has been promoted to Associate Teaching Professor, reflecting his exemplary dedication to undergraduate and graduate instruction.

Research Leadership and Innovation



Curtis Menyuk

Professor

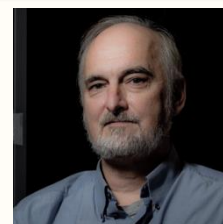
- University System of Maryland (USM) Excellence in Scholarship & Research Award
- Elected Fellow of SPIE, the International Society for Optics and Photonics



Anupam Joshi

Oros Family Professor, VP & Chief AI Officer

- Elected 2025 Fellow of the American Association for the Advancement of Science (AAAS)
- IEEE Computer Society Technical Community on Services Computing (TCSVC) 2025 Research Innovation Award



Timothy Finin

Emeritus Professor

- 2026 Washington Academy of Sciences Award



Adam W. Bargteil

Associate Professor

- Adam W. Bargteil's paper "Fast Simulation of Mass-Spring Systems" (SIGGRAPH Asia 2013) received the SIGGRAPH Asia Test of Time Award.



Roberto Yus

Assistant Professor

- Best Paper Award nomination at MDM 2025
- Best Artifact Award at PerCom 2025 (Main Author: CSEE Ph.D. Student Christian Badolato)

Excellence in Teaching and Mentorship



E.F. Charles LaBerge

Professor of the Practice

Presidential Teaching Professor 2025–2028

Recipient of one of UMBC's highest honors for excellence in teaching, mentorship, and student engagement. Recognized for innovative, hands-on educational leadership, including the development and advancement of the capstone design sequence.



Ramana Vinjamuri

Associate Professor

UMBC Marilyn E. Demorest Award for Faculty Mentorship 2025–2026

Recognized for outstanding contributions to faculty mentorship and professional development, advancing faculty success, strengthening academic leadership, and fostering a collaborative and inclusive academic community.

Recognition in Entrepreneurship, Service, and Innovation



Ramana Vinjamuri (Right) won the Maryland New Venture Fellow pitch competition.

Ramana Vinjamuri

Associate Professor

- Technical.ly 2025 RealLIST Innovators in Maryland
- Outstanding Research Partner Award Center for Women in Technology (CWIT)
- Maryland New Venture Fellow Pitch Competition

Fueling Innovation: External Grants Driving Cutting-Edge Research


\$1M

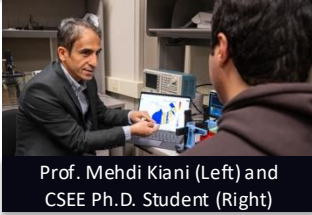



SFS Cybersecurity Scholarship Program

Alan T. Sherman
Roberto Yus

UMBC has received a \$1M NSF grant to expand its Scholarship for Service (SFS) Cybersecurity Program. Led by CSEE faculty Alan T. Sherman (PI) and Roberto Yus (Co-PI), the three-year award will support undergraduate and graduate scholars with full funding and professional development. The program now integrates AI-focused training alongside hands-on research to address emerging security challenges.


\$300K



Next-Gen "Cybergut" Monitoring System

Mehdi Kiani

Mehdi Kiani received a \$296,746 NIH award for a collaborative project with New York Institute of Technology and Pennsylvania State University to develop a next-generation "cybergut" system for monitoring and treating stomach disorders. The project integrates implantable devices, wearable systems, and AI-driven modeling to enable personalized, adaptive therapies and advance precision care.


\$250K



Advancing Photonic Device Research

Ergun Simsek

Ergun Simsek received a \$246,000 Department of Defense (DoD) grant to establish a Time-Domain Thermo-Reflectance (TDTR) laboratory for advanced thermal characterization of high-power, ultrafast photodetectors, improving performance and reliability in next-generation photonic systems.


\$60K



Smartphone-based Ultrasound Monitoring

Dong Li

Dong Li received the Google Research Scholar Award and a \$60,000 gift for his project on transforming smartphones into Doppler ultrasound tools for accessible, affordable, and non-invasive cardiovascular monitoring.

Empowering Discovery: Internal Funding Advancing UMBC Research

CSEE faculty received multiple internal awards through the COEIT Interdisciplinary Proposal Awards, supporting innovative, interdisciplinary research and fostering collaborations across departments such as Information Systems, Mechanical Engineering, Chemical, Biochemical, and Environmental Engineering, Language, Literacy & Culture Program, and Psychology:

- COHERE: Human Engagement & Robot Effectiveness
Ramana Vinjamuri
- Advanced Skin Assessments for Touch Interactions
Dong Li
- Cybersecurity Concepts in Introductory Engineering
Alan Sherman
- AI-facilitated Collaborative Visual Sensemaking
Rebecca Williams and Sanorita Dey
- Community-driven Sensorization in Assisted Living
Roberto Yus
- Invariance-embedded Machine Learning Models
Tim Oates
- Secure & Verifiable Federated Unlearning for Scientific AI
Keke Chen

CSEE faculty received additional internal support to advance research and education. Dong Li was supported by the Faculty Entrepreneurship Accelerator (FEAT) Fund for work on wireless earbuds for health monitoring, while Roberto Yus received the UMBC Hrabowski Innovation Fund to enhance teaching and student success. Sanorita Dey was awarded the UMB ICTR Community Engagement Research (CEnR) Voucher Award. Yiwen Hu, Dong Li, and Rebecca Williams were selected for the Make Your Research Come Alive (myRCA) Faculty Collaboratory.

Leading the Field: CSEE Faculty Shaping the Global Research Community

CSEE faculty shape the global research community through leadership roles in conferences, technical program committees, editorial service, and scholarly engagement across top venues in AI, systems, security, and computing.

- **Conference Leadership:** Tulay Adali, Nagmeh Karimi, Tejas Gokhale, Dong Li, Lara Martin, Ergun Simsek, among others serve in key roles such as General, Program, Track, Tutorial, Local and Workshop Chairs at major venues including ICASSP, VTS, HOST, ICCAD, ICCV, CHASE, SEC, AAAI AliDE, EMNLP.
- **Technical Program Committees & Reviewers:** Dong Li, Roberto Yus, Yiwen Hu, Tejas Gokhale, Lara Martin, Ergun Simsek, KMA Solaiman, among others contribute to program committees and peer review for top-tier venues such as MobiSys, SenSys, PerCom, ACL, CNS, EMNLP, CHI, and XAI World Conference, including Senior Area Chair and Area Chair roles.
- **Editorial & Institutional Service:** Lara Martin serves as Guest Editor for IEEE Transactions on Games and contributes to national committees, while Richard Forno plays a leadership role in the INCS-COE cybersecurity initiative, supporting broader research and policy efforts.



Sharing Knowledge: CSEE Faculty Invited to Prestigious Talks

CSEE faculty are actively invited to share their expertise through keynote talks, invited presentations, and institutional engagements at leading conferences, universities, and industry forums worldwide.

- **Keynote Talks:** Ramana Vinjamuri delivered keynote talks at BCI, Unity Masterclass, and GWU BME on brain-computer interfaces and biomedical systems. Tülay Adali delivered three IEEE conference keynotes on data fusion and neuroimaging data analysis (Brain Discovery Workshop, DSP, and CISA). Mohamed Younis also delivered a keynote at the 2025 AI Transforming Systems (AITS) Symposium hosted by King Fahd University of Petroleum and Minerals.
- **Conference & Workshop Invited Talks:** Tejas Gokhale, Naghmeh Karimi, Dong Li, Ergun Simsek, and Manas Gaur presented invited talks at venues such as ICCV, IEEE Baltimore Technical Colloquium, UC San Diego, IMRC, and BCI Workshops, covering computer vision, hardware security, sensing systems, and data science.
- **Institutional & Community Engagement:** Justin Brooks, Lara Martin, Laura Mateczun, and Gargi Banerjee delivered talks at various institutions and community events including UMB ICTR Medical Grand Rounds, UMBC CYPR ESS, GRIT-X, and cybersecurity outreach programs, demonstrating strong impact across education, healthcare, and public engagement.



Research Innovation from Research Centers

CSEE faculty contribute to cutting-edge interdisciplinary research through multiple university research centers. For example, the BRAIN Center advances work at the intersection of neuroscience, AI, and human-centered systems. Prof. Ramana Vinjamuri's research explores human hand movements, drawing inspiration from classical Indian dance to inform rehabilitation and robotic systems, with the goal of improving physical therapy and human-robot interaction. Together, these efforts deepen our understanding of complex human behaviors while fostering innovations in assistive technologies and cross-disciplinary collaboration.



Innovations in Rehabilitation and Human-Robot Interaction

Research Publications & Scholarly Impact



During the past year, CSEE faculty published around 350 papers across top venues, spanning AI/ML/NLP/signal processing, communications and photonics, cyber-physical systems, computer architecture and hardware systems, security and privacy, robotics, graphics and visualization, and quantum computing and theory. Publications appeared in leading venues such as NeurIPS, ICML, CVPR, ICASSP, EMNLP, ACL, MobiSys, CHI, IMWUT, KDD, AAAI, IEEE Transactions, and Nature Scientific Reports.

Innovation — New Patents

CSEE faculty continue to translate research into impactful innovations, with recent patents in areas such as:

- Dynamic question generation for information-gathering (*Manas Gaur*)
- System and methods of reducing wideband series resonant clock skew (*Riadul Islam*)
- Systems and methods of graph-based vehicular intrusion detection (*Riadul Islam*)
- Energy-efficient collection of wearable sensor data (*Mohamed Younis*)
- System and method for converting antivirus scan to a feature vector (*Robert J. Joyce*)
- Smart multi-modal telehealth-IoT system for respiratory analysis (*Mohamed Younis*)

These innovations highlight strong progress toward real-world deployment and commercialization.

Broader Impact through Community and Global Engagement

CSEE faculty Rajasekhar Anguluri, Sanorita Dey, Manas Gaur, Tejas Gokhale, Anupam Joshi, Dong Li, Ramana Vinjamuri, and Lara Martin extend their impact through community outreach, industry partnerships, and global collaboration, advancing K-12 cybersecurity education, AI-driven initiatives, and real-world, inclusive computing applications. These efforts strengthen connections between academia, industry, and the broader community.

CSEE Faculty Advance Scholarship Through New Books

CSEE faculty continue to expand their scholarly impact through major book publications. Chein-I Chang published his fifth book on hyperspectral imaging, further advancing research in remote sensing. Manas Gaur also co-authored Knowledge-Infused Learning: Neurosymbolic AI for Explainability, Interpretability, and Safety, published by Cambridge University Press, contributing to emerging advances in trustworthy AI.

CSEE Annual Research Events

CSEE Welcome Week — Research Lightning Talks & Lab Open Houses

In August 2025, the UMBC CSEE Department hosted its annual research showcase, bringing together students and visitors to explore cutting-edge work by faculty and students. The event featured projects across computer science, computer engineering, and electrical engineering, with opportunities to engage with faculty, tour labs, and learn about diverse research areas. The showcase serves as a key platform for networking, collaboration, and discovery, fostering continued innovation within the CSEE community.



Cyber Defense Lab Open House

CSEE Research Day

CSEE hosted its annual Research Day in April. The event showcased research in computer science, computer engineering, and electrical engineering. It featured faculty talks, a student research competition, and a poster session with 28 projects in AI, robotics, and cybersecurity. Top awards went to Joshua Sebastian and Karma Tobden (UG), Pooja Guttal et al. (MS), and Jiajie He and Yuechun Gu (PhD). Poster awards were presented to Weixin Wang (PhD), Rishav Gupta (PhD), and Amir Walton-Irvin (UG). The event fostered collaboration and highlighted innovation across the CSEE community.



CSEE Research Day 2026 Poster Session

CSEE Student Achievements



ANNUAL RESEARCH SYMPOSIUM 2026

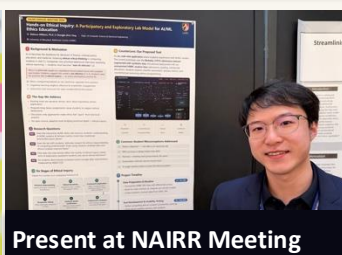
Calling all undergraduate & graduate students to present their research posters at this year's symposium!

- Your research viewed by students from all 3 colleges (COMPS, CAHSS, U)
- A chance to win a prize for poster presentation
- Free buffet lunch

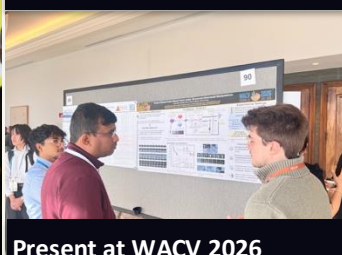
Date: 04/07/2026
Time: 10am - 12pm
Venue: UC Ballroom

Don't want to present? Attend and take a break from your projects!

Dean Jeanne Van Briesen presents the "Best of COEIT" Graduate Award at the UMBC Annual GEARS Research Symposium to Dharani Nadendla



Present at NAIRR Meeting



Present at WACV 2026



Thesis Discussion with Faculty

CSEE students continue to achieve outstanding success across research, academics, and professional development.



For the third time, a record four UMBC students earned Goldwater Scholarships in a single year—two from CSEE: Jessica Slaughter and Amir Walton-Irvin.

- Dharani Nadendla: "Best of COEIT" Graduate Award, UMBC Annual GEARS Research Symposium
- Amir Walton-Irvin: 1st Place at NSBE Regional Conference; ABRCMS Award; LSAMP Fellow; MIT Workshop Participant
- Shivanand Kundargi: Internship at Lawrence Livermore National Laboratory
- Sourajit Saha: Lambda Research Grant Recipient
- Sina Razaghi: UMBC Idea & Innovation Challenge Award
- Kodi Mkpassi: UMBC U-RISE Scholarship Recipient
- Tushar Passi: CMU IT SSI Lab Fellowship Recipient

Alumni Spotlight: Inspiring Journeys and Achievements

Ralph Semmel Elected to NAE

Ph.D. '92 — Computer Science



Dr. Ralph Semmel has been elected to the National Academy of Engineering (NAE), one of engineering's highest honors. As Director Emeritus of JHU APL and UMBC's 2011 Outstanding Alumnus of the Year, he is recognized for advancing solutions in defense, national security, and space.

Emily Brown Named Outstanding Alumna

B.S. & M.S. '14 — Computer Science



Emily Brown was named UMBC's 2025 Outstanding Alumna of the Year by the UMBC Alumni Association Board of Directors for her contributions to computing, community impact, and her commitment to inspiring future computer science students.

Josiah Dykstra

Ph.D. '13 — Computer Science



As a Distinguished ACM Speaker, Dr. Josiah Dykstra delivered an invited talk at CSEE in March titled "American Self-Defense in Cyberspace," addressing key cybersecurity challenges and strategies for national resilience.

Janerra Allen

Ph.D. '25 — Electrical Engineering



As a Postdoctoral Researcher at JHU APL, Dr. Janerra D. Allen delivered an invited talk at CSEE Research Day 2026, highlighting advances in computational neuroscience and wearable sensing for human performance.

Congratulations to the 2025 CSEE Graduates

Congratulations to our 2025 graduates across all levels, including doctoral, master's, and undergraduate students, whose achievements reflect excellence in research, academics, and professional development. Thirteen CSEE Ph.D. scholars, along with 150 M.S. and 342 B.S. graduates, are advancing to leading research institutions and industry positions worldwide, contributing to innovation across diverse fields.

Ryan C. Barron

Ph.D. in CS · Mentor: Cynthia Matuszek

Dissertation: Trustworthy Domain-Specific AI for Structured Knowledge Retrieval and Reasoning

Position: Los Alamos National Laboratory

Luke Richards

Ph.D. in CS · Mentor: Cynthia Matuszek

Dissertation: Assurance of Machine Learning for Human-Robot Interaction

Position: Pacific Northwest National Labs

Padraig Higgins

Ph.D. in CS · Mentor: Cynthia Matuszek

Dissertation: From Simulation to Reality: Investigating Virtual Reality for Human Robot Interaction

John Michael Clemens

Ph.D. in CS · Mentor: Tim Oates

Dissertation: Neural Parameter-Space Classification And Applications to Hardware Explanation

Position: JHU APL

Chunying Jia

Ph.D. in EE · Mentor: Tülay Adalı

Dissertation: Multi-Feature and Multimodal Data Fusion for Characterization of Brain Function

Position: Chinese Institute for Brain Research

Md Mehedi Hassan Galib

Ph.D. in CE · Mentor: Mohamed Younis

Dissertation: Lightweight Bio-Inspired Models for Opportunistic Spectrum Access in Cognitive Radio Networks

Janerra Allen

Ph.D. in EE · Mentor: Fow-Sen Choa

Dissertation: Functional magnetic resonance imaging of spatiotemporal brain dynamics in patients with schizophrenia

Yuechun Gu

Ph.D. in CS · Mentor: Keke Chen

Dissertation: End-to-end Privacy Protections for Machine Learning on Sensitive Data

Position: Asst. Professor, Hunan University

Dhandeep Challagundla

Ph.D. in CE · Mentor: Riadul Islam

Dissertation: Enabling High-Performance Computing with Low Power Energy- Recycling Clock and Memory Architectures

Kasra Darvish

Ph.D. in CS · Mentor: Cynthia Matuszek, Frank Ferraro

Dissertation: From Perceptions to Meaning: Multimodal and Contrastive Machine Learning to Ground Human Intentions and Language

Hanlu (Catherine) Yang

Ph.D. in EE · Mentor: Tülay Adalı

Dissertation: Data-Driven Techniques for Inference in Large-Scale fMRI Datasets: Homogeneous Subgroup Identification and Multi-Subject Analysis

Position: Meta, New York

Hasibul Hasan

Ph.D. in EE · Mentor: Gary Carter

Dissertation: System development and machine learning for binding protein-based glucose monitoring platform for online bioprocess monitoring

Position: RICOVR Healthcare

Farshad Safavi

Ph.D. in CS · Mentor: Ramana Vinjamuri

Dissertation: Emotion Recognition via Multimodal Fusion for Human-Robot Interaction Using Deep Learning