VOL. 5 ISSUE 2 · FALL 2025/WINTER 2026

CINSER BRIEF

Newsletter of the Center for Information & Security Education and Research (CINSER) at Chicago State University

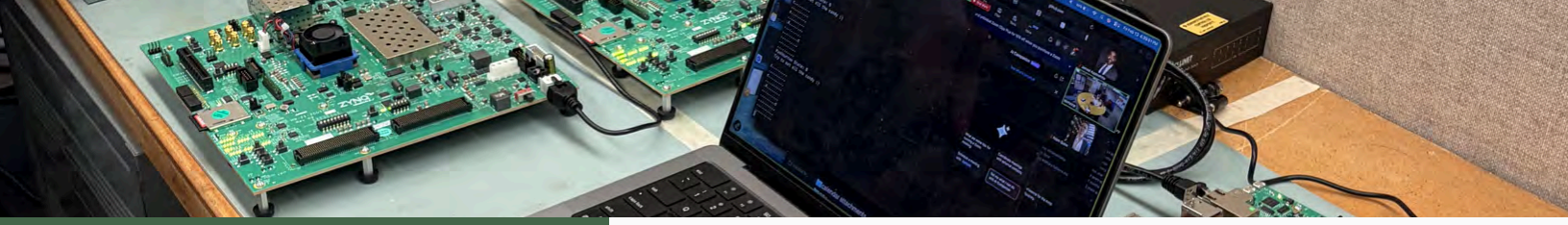
CINSER Updates

Fall 2025 and winter 2026 marked a period of significant transition at CINSER as the team moves into the 2026–2031 strategic planning cycle. While the suspension of ISWN funding and IC CAE support marked the end of specific chapters in the Center's history, these shifts have catalyzed a renewed focus on resilient infrastructure and global collaboration. Participation in the World Public Safety Forum Technologies Conference (p. 4) is an example of this. CINSER has also launched the CINSER YouTube channel (p. 7) for researchers, practitioners and the community worldwide. This digital repository serves ensures that the insights shared by experts from institutions like Texas A&M, Meta, Columbia University, University of Quebec and Chicago State University remain accessible as CINSER navigates the new federal funding environments and prioritize the most impactful emerging and critical technologies.

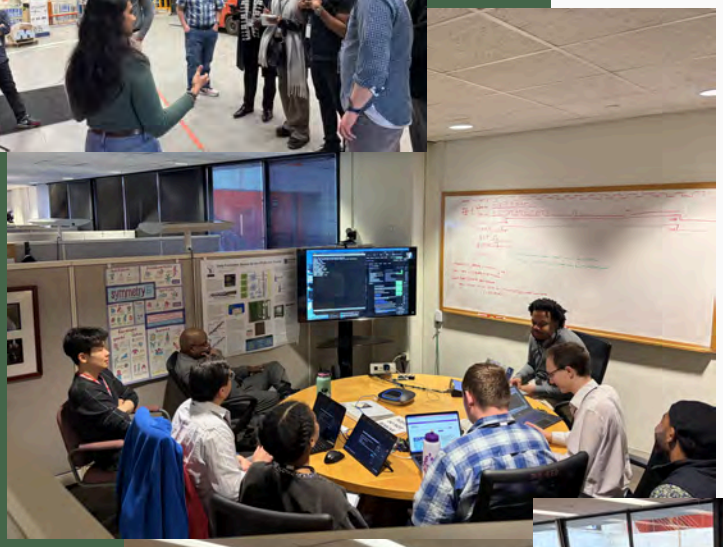
Amidst these structural changes, the momentum continues to advanced through its workforce development initiatives. The Mic2ExL program is seeing robust growth, with Cohort 2 successfully navigating from Phases 2 to 3 (p. 2) while Cohort 3 officially begins its journey into microelectronics world (p. 3). We are also proud to celebrate the achievements of our IC CAE Scholars—Joselyne Nihabwimpundu, Danina Hughes, and Tomás Menchaca—whose work exemplifies the high caliber of research being fostered within the community (p. 7). Looking forward, the launch of AII@CSU (p. 5) and Dr. Ayyash's high-profile IEEE Guest Editorial on trustworthy AI further signal a strategic pivot toward ensuring that intelligence systems are both technically robust, ethically grounded and integrated into the fabric of CSU.

Dr. Lyes Saad Saoud has joined the CINSER team as the CARNATIONS Postdoctoral Researcher. His research focuses on artificial intelligence, robotics, and secure intelligent systems, with an emphasis on deploying robust solutions in complex and real-world environments. Dr. Saad Saoud has contributed to a range of interdisciplinary projects spanning autonomous systems, computer vision, and machine learning, including bio-inspired robotics for ecological monitoring and advanced models for real-time biomedical analysis. His work emphasizes reliability, interpretability, and practical deployment in safety-critical domains. He holds a Ph.D. in Physics and has developed expertise in bridging theoretical modeling with applied system design across domains such as cybersecurity, intelligent infrastructure, and energy systems. His research has been published in leading venues, including IEEE Transactions on Neural Networks and Learning Systems, and continues to explore how AI-driven systems can address emerging challenges in security and autonomous technologies. More information: https://saadsaoudlyes3.wixsite.com/robotvision

This issue:

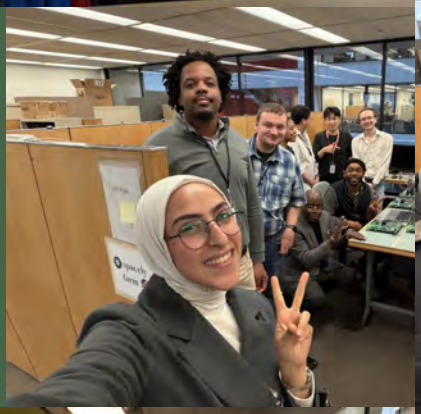


Mic2ExL Cohort 2



Mic2ExL Cohort 2 completed Phase 2 at Argonne National Laboratory in the fall 2025 semester and is currently completing Phase 3 at Fermi National Accelerator Laboratory (Fermlab) in Batavia, IL. In this experience, participants learned about testing Application-Specific Integrated Circuits (ASIC) with Fermilab engineering staff working on ASIC Development. Unlike commercial semiconductor chips that are made for devices intended for home and office use, Fermilab's ASICs are engineered to survive extreme operating conditions such as intense radiation, high-energy particle bombardment, and cryogenic temperatures (as low as 4 K).

Fermilab's semiconductor program bridges the gap between fundamental physics and industry. By pushing the limits of what silicon can do, Fermilab's innovations in ASICS have applications in medical imaging, space exploration, and autonomous vehicle sensors where high reliability in harsh conditions is a requirement.



Mic2ExL participants gained an understanding and had experiences with ASICs testing. Semiconductor testing is currently an area experiencing signifiacnt workforce shortages.

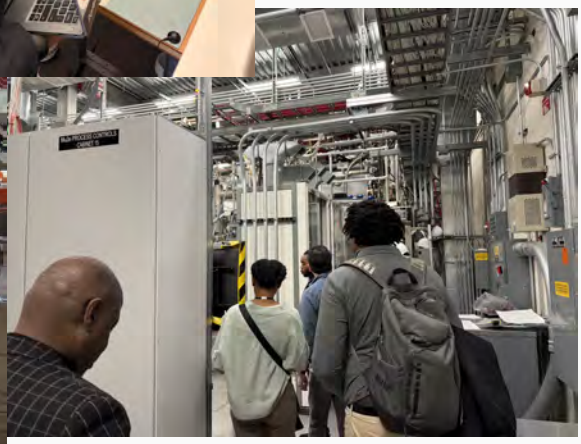


PHOTO CREDIT: DESIREE MONTGOMERY & SEWAR DGHAIM

Mic2ExL Cohort 3

The Chicagoland Partnership for Semiconductors and Microelectronics Experiential Learning (Mic2ExL) has officially launched its third cohort, welcoming 22 participants from across the Chicago area into a high-impact initiative funded by the National Science Foundation's ExLENT program. Designed to address critical national security needs and the growing demand for a skilled domestic workforce, this collaborative project brings together Chicago State University's CINSER center, community non-profits, and industry partners such as Argonne National Laboratory and Fermilab. By providing hands-on experiential learning, technical internships, mentoring and professional support, Mic2ExL aligns with the federal CHIPS Act and Illinois's MICRO Act to bridge the talent gap in the semiconductor sector. This latest cohort represents a strategic investment in local equity and innovation, empowering underutilized talent pools to lead the state's burgeoning microelectronics manufacturing and research landscape.

"Everyone in the semiconductor industry, everyone in the technology industry, would benefit from more diversity in the business."

LISA SU
PRESIDENT AND CEO OF AMD

Photo credit: Sewar Dghaim

"Salus populi suprema lex esto." (The safety of the people shall be the highest law.)

CICERO

Public Safety Technologies

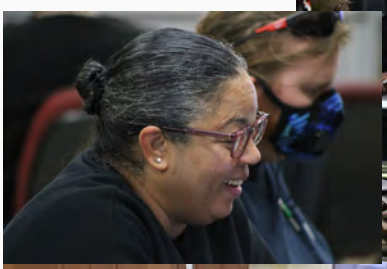
Public safety technologies are a diverse set of emerging and existing tools designed to help first responders, public safety agencies, and governments protect lives, infrastructure, and the environment. IEEE has several technical committees conducting this work including Communications and Networking, Smart Algorithms and Informatics, Transportation Technology, Cybersecurity and Privacy, Intelligent Reality and Disaster Relief.

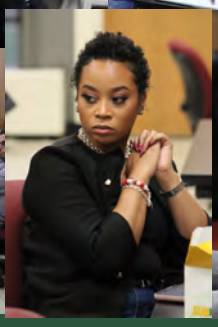
World Forum on Public Safety Technologies Conference

The IEEE World Forum on Public Safety Technology (WF-PST) was held September 23-25, 2025 in Orlando, FL. Dr. Mousa Ayyash served as Technical Committee Co-Chair for the conference. Ayyash also served as the moderator and panelist on the panel, "Positioning and Navigation Systems Challenges and Solutions: A Public Safety Perspective." This panel explored the role of Positioning, Navigation, and Timing (PNT) systems in safeguarding public safety, from emergency disaster response to the protection of national infrastructure. Leading a discussion with a distinguished group of experts from Stanford University and the U.S. Department of Transportation, the panel considered the growing risks facing these systems—specifically the dangers of over-reliance on space-based infrastructure, signal spoofing, and evolving cybersecurity threats. To address these vulnerabilities, the panelists advocate for a transition toward a more resilient ecosystem and deep collaboration between government, academia, and the private sector to develop actionable solutions that ensure these critical systems remain reliable in the face of both technical failures and malicious attacks. At the conference, Dr. Ayyash also presented a paper, "Enhancing GNSS Resiliency Against Spoofing and Jamming Employing Deep Neural Networks."

Artificial Intelligence Initiative (AII@CSU)

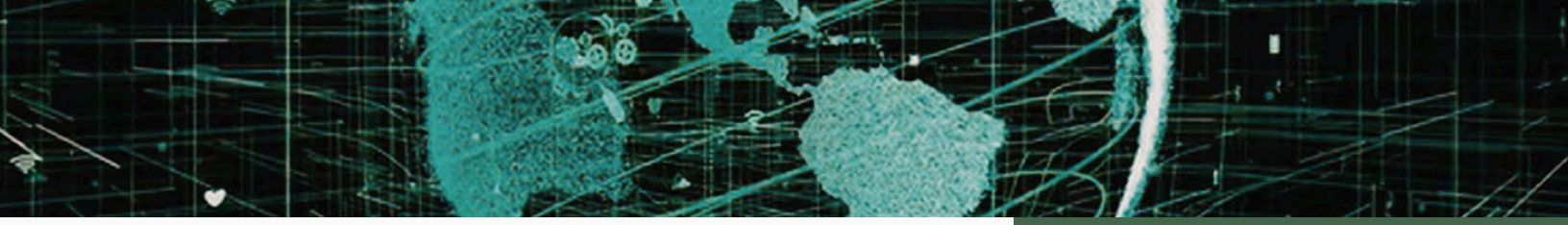
AII@CSU is a campus and community-wide AI literacy initiative to strengthen curricular and co-curricular integration of artificial intelligence throughout all fields of study at CSU as well as to provide a platform for discussion about AI and its integration in society. AII@CSU is funded by a grant from the National Science Foundation. CSU's Center for Teaching & Research Excellence (CTRE) is a partner on this project. In Fall 2025, faculty representing every college at CSU plus the library formed the Artificial Intelligence Initiative (AII@CSU) Faculty Working Group. Working Group faculty participated in three, four-hour long workshops in the fall related to teaching and learning with AI and in Winter 2026 participated in workshops related to research using AI. Oct. 21-23, 2025, the AII@CSU Working Group faculty participated in the Summit for AI Institutes Leadership (SAIL), an activity offered by the National Science Foundation and the AI Institutes Virtual Organization intended to bring together academia and industry for interactions, discussions, and connections related to AI. There were also three public webinar talks in the fall and two public talks in the winter on AI applications in disciplines and daily life.





"The future of AI is not about replacing humans, it's about augmenting human capabilities."

SUNDAR PICHAI
CEO OF GOOGLE



CARNATIONS

The Center for Assured and Resilient Navigation in Advanced Transportation Systems (CARNATIONS) is a U.S. Department of Transportation Tier-1 University Transportation Center focused on addressing cyber-physical risks to Positioning, Navigation, and Timing (PNT) systems in surface transportation. CARNATIONS is a collaboration between Illinois Tech, Chicago State University, University fo California, Riverside and Virginia Tech.

CSU is currently collaborating with a project under CARNATIONS - Leveraging Generative Adversarial Networks for Enhanced Cybersecurity in Smart Transportation Systems. The investigators for this project include Dr. Mohamed Rahouti (Fordham University), Dr. Moussa Ayyash (Chicago State University), and Mr. Evans Owusu (Fordham University). The purpose of this collaborative project is to forge a transportation ecosystem that is not only intelligent and efficient but also inherently secure against an array of cyber threats. This project will utilize the capabilities of Generative Adversarial Networks (GANs) along with other generative AI methodologies to proactively identify, simulate, and neutralize cyber threats against sophisticated transportation networks. The project combines the strengths of GANs, Reinforcement Learning (RL), and differential privacy to significantly devise a cybersecurity framework for resilient and advanced transportation systems. This project does not only align with CARNATIONS's mission of promoting secure and resilient navigation in advanced transportation systems but also sets a new benchmark for cybersecurity practices across the industry.

Learn more about CARNATIONS

"Transportation is the centre of the world. It is the glue of our daily lives. When it goes well, we don't see it. When it goes wrong, it negatively colours our day, makes us feel angry and curtails our possibilities. "

ROBIN CHASE
CO-FOUNDER AND
FORMER CEO OF ZIPCAR

"AI will not destroy us. It will, however expose who we truly are."

REID HOFFMAN
CO-FOUNDER OF
LINKEDIN

CINSER YouTube Channel

If you missed a CARNATIONS or CINSER webinar or if you wanted to view a webinar again, you can access some of the past webinars on CINSER's new YouTube channel. Find us at https://www.youtube.com/@CINSER_Center/videos or scan the QR code below. A full compilation of the Artificial Intelligence Initiative webinars are available as well as a playlist of technical talks. Please subscribe and click on the bell icon to stay updated with the newest insights on critical and emerging technologies.

IC CAE Scholars Fall 2025

CINSER is pleased to announce the awarding of three IC CAE scholarship recipients during the fall 2025 semester.

Joselyne Nihabwimpund, a CSU undergraduate student majoring in Pre-Public Health with an Information Technology minor, and two masters students in the Technology and Performance Improvement Studies program, Danina Hughes and Tomás Menchaca, received fellowship stipends from the IC2Tech program to support their studies in applied information technology. This scholarship award recognizes the excellence of these CSU students and is a vote of confidence in these scholars' potential to lead the next wave of technological innovation, ensuring that the development of applied IT remains both cutting-edge and aligned with the public interest.

Announcements and Events

PUBLICATIONS & PRESENTATIONS

M. Al-Zewairi, S. Almajali, M. Ayyash, M. Rahouti, F. Martinez, and N. Quadar, “Multi-Stage Enhanced Zero Trust Intrusion Detection System for Unknown Attack Detection in Internet of Things and Traditional Networks,” ACM Trans. Priv. Secur., vol. 28, no. 3, pp. 1–28, Aug. 2025, doi: 10.1145/3725216.

M. Ayyash. Enhancing GNSS Resiliency Against Spoofing and Jamming Employing Deep Neural Networks, 2025 IEEE World Forum on Public Safety Technology (WF-PST), September 2025, DOI: TBA

M. Ayyash, N. Gupta, C. McGregor, J. Pan, M. Ulema and M. Wang, "Guest Editorial: Advances in Communication Technologies for Public Safety," in IEEE Communications Magazine, vol. 63, no. 12, pp. 20-21, December 2025, doi: 10.1109/MCOM.2025.11293134.

UPCOMING EVENTS - WEBINARS

CINSER Spring 2026 Webinar

From Code to Care: A Roadmap to Navigating AI in Healthcare
Andrew Wong, MD, MS
National Clinician Scholars Program
Institute for Healthcare Policy and Innovation
Department of Internal Medicine
University of Michigan Health System
April 23 2026, 11:30 AM CST

Please visit https://www.csu.edu/cas/CINSER/Webinars_CINSER.htm for upcoming summer webinars!

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ED 208

The Center for Information & Security Education and Research (CINSER) is an interdisciplinary center at Chicago State University with activities in the areas of academics, outreach and research. CINSER focuses on emerging and critical technologies such as cybersecurity, semiconductors and microelectronics, autonomous systems, and artificial intelligence. CINSER has active status as an Intelligence Community Center for Academic Excellence (IC CAE).

CINSER STAFF

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Ms. Sewar Dghaim, Mic2ExL Project Coordinator

CARNATIONS Postdoctoral Reseacher

Dr. Lyes Saad Saoud

CARNATIONS Research Associates

Dr. Anad Singh

CHICAGO STATE UNIVERSITY