Halil Ibrahim Dursunoglu

(also: Halil Dursunoglu)

Faculty Specialist – Computer Science & Cybersecurity
Western Michigan University, Kalamazoo, MI

Email: halil.dursunoglu@gmail.com
halilibrahim.dursunoglu@wmich.edu
Website: halildursunoglu.com
Google Scholar: https://scholar.google.com/citations?user=v4S2JYEAAAAJ
ORCID: https://orcid.org/0009-0005-7470-9404
LinkedIn: https://www.linkedin.com/in/halil-ibrahim-dursunoglu/

Professional Summary

Cybersecurity educator and applied systems specialist with expertise in applied cybersecurity, secure systems architecture, and artificial intelligence security. Faculty Specialist in Computer Science and Cybersecurity at Western Michigan University, focusing on integrating academic instruction with real-world cybersecurity challenges and secure system design.

My work centers on developing secure systems and cybersecurity education frameworks that address evolving threats in software, networks, and AI-driven environments. I have designed and delivered hands on cybersecurity curricula, mentored multidisciplinary student teams in secure system development, and implemented applied learning environments incorporating ethical hacking and defensive security techniques.

I have prior industry experience as a Chief Technology Officer and Senior Software Engineer, where I led development of secure platforms and scalable software systems. My current research includes artificial intelligence security and deepfake detection, contributing to the understanding of emerging risks in digital media and information systems.

My work supports the development of a skilled cybersecurity workforce and contributes to addressing critical challenges in secure system design and emerging technologies. My current work includes applied research and development in artificial intelligence security and secure systems.

Research and Impact Statement

My work focuses on applied cybersecurity, secure systems architecture, and artificial intelligence security, with an emphasis on addressing emerging challenges in digital infrastructure, information integrity, and system-level security. I am particularly interested in the security implications of modern software systems and AI-driven technologies, including deepfake detection and the protection of digital media authenticity.

Through my academic role, I design and deliver cybersecurity-focused curricula that integrate real-world system design, secure software development, and defensive security practices. My teaching emphasizes experiential learning, enabling students to develop practical skills in system security, network defense, and vulnerability analysis. I have mentored numerous student teams in developing secure and scalable software systems, including projects that progressed toward startup initiatives, external grant funding, and early-stage investment.

In addition to teaching, my work contributes to cybersecurity workforce development by preparing students to address real-world security challenges in software, networks, and emerging technologies. I have led curriculum redesign efforts aligned with ABET standards, integrating applied cybersecurity concepts into core computer science education.

My industry experience further informs my research and teaching, particularly in the design of secure platforms and distributed systems. My current research includes artificial intelligence security and deepfake detection, addressing risks related to misinformation, digital manipulation, and system integrity.

My work includes ongoing research efforts in artificial intelligence security and system-level protection, with a focus on practical and applied cybersecurity challenges.

Overall, my work aims to bridge academic research with practical implementation, contributing to the development of secure systems, the advancement of cybersecurity education, and the strengthening of technological resilience in areas relevant to national and digital infrastructure security.

Research Interests

Applied Cybersecurity and Secure Systems Design
Artificial Intelligence Security and Deepfake Detection
Secure Software Engineering and System-Level Security
Network Security and Distributed Systems Protection
Cybersecurity Education and Workforce Development
Applied Security for Emerging Technologies and Digital Infrastructure

Academic Appointment

Faculty Specialist – Computer Science & Cybersecurity
Western Michigan University Aug 2023 – Present

Courses Taught

- Computer Science II (Python)
- Computer Programming 2 for Cybersecurity (Python)
- Computer Organization & Assembly Language for Cybersecurity
- Network Fundamentals for Cybersecurity
- Web Application Security
- Senior Design Project

Key Contributions

- Mentored and supervised 30 senior design teams in secure software development lifecycle and system architecture.
- Developed gamified cybersecurity learning environments for hands-on offensive and defensive security education.
- Redesigned system-level courses emphasizing memory vulnerabilities, control flow, and exploitation techniques.
- Integrated labs in secure Python programming, network defense, and secure web application design.
- Mentored over 100 undergraduate students in cybersecurity and computer science.

- Engaged in applied research activities in cybersecurity and artificial intelligence security, focusing on real-world system challenges.

Professional Service & Curriculum Development

- Led curriculum redesign efforts for multiple core courses, including Senior Design Project, Computer Organization & Assembly Language for Cybersecurity, and Computer Science II, integrating real-world system design and applied cybersecurity concepts.
- Aligned course learning outcomes with ABET accreditation requirements, ensuring consistency with program-level educational objectives and student learning outcomes.
- Introduced project-based and experiential learning models emphasizing secure software development, system architecture, and real-world problem solving.
- Mentored and advised student teams in the development of startup-oriented projects, guiding them in preparing industry-level pitch decks, technical solution design, and financial forecasting.
- Mentored student teams whose projects successfully secured external grants and early-stage investment, supporting the transition of academic projects into viable technology ventures.
- Mentored student teams in developing projects with commercialization potential, some of which progressed to funded initiatives and early-stage ventures.
- Supported students in translating technical projects into scalable and commercially viable solutions, emphasizing innovation, system reliability, and real-world deployment.
- Contributed to internationalization initiatives by incorporating globally relevant cybersecurity topics and practices into course content and project design.
- Developed instructional strategies that bridge theoretical computer science concepts with applied cybersecurity and industry practices.
- Designed, organized, and led a large-scale coding competition for over 130 high school students, promoting early engagement in computer science and cybersecurity and contributing to the development of the future STEM and cybersecurity workforce.

Student Mentorship

- Supervised 30 senior design teams in software engineering and cybersecurity projects, guiding students through secure system design, threat modeling, and project execution.
- Served as a committee member for multiple undergraduate honors theses, evaluating research quality, technical rigor, and project outcomes in computer science and cybersecurity.
- Mentored student teams in developing projects with real-world applications, including startup-oriented initiatives, technical solution design, and project presentation.
- Guided students in preparing technical documentation, system architecture, and research-based project deliverables.
- Participated in thesis evaluation committees assessing research methodologies, technical implementation, and innovation potential.

Selected Student Projects (Advised)

- Design and Develop an Immersive Mixed-Reality Anatomy Lab Lesson
- Blockchain: Construction Insurance
- EEMM-Based Network Analysis Program
- Smart Home IOT Testbed

Industry Experience

Chief Technology Officer
GrakGrak Corp — Nov 2021 – Aug 2023

- Led development of scalable software systems and platform architecture.
- Designed secure system architectures including encryption, authentication, and penetration testing.
- Established cybersecurity practices and coordinated vulnerability assessments.

Senior Software Engineer
Dustas Corp — July 2015 – Sept 2021

- Designed and implemented enterprise-level software systems.
- Conducted system architecture reviews and feasibility studies.
- Developed distributed applications using REST APIs and modern software practices.

Teaching Assistant
Western Michigan University — Sept 2014 – June 2015

- Assisted instruction and participated in research on software optimization and system performance.

Software Engineer Intern
Aselsan Defense Corporation — June 2010 – Sept 2010

- Developed tools for concurrent programming and system stability.

Education

M.S., Computer Science
Western Michigan University

B.S., Computer Engineering
Yeditepe University

Erasmus Exchange Program
Helsinki Metropolia University of Applied Sciences

Selected Publications

- Dursunoglu, H. I. (2026).
  Audio-Visual Synchronization Analysis for Deepfake Detection: A Comprehensive Review.
  International Journal of Computer Techniques (IJCT). DOI: 10.5281/zenodo.19557051
- Uslu G., Dursunoglu, H. I., Altun O., Baydere S. (2013).
  Human Activity Monitoring with Wearable Sensor and Hybrid Classifiers.
  International Journal of Computer Information Systems and Industrial Management.

Preprints

- Dursunoglu, H. I. (2026).
  Hybrid Classification for Complex and Composite Activity Recognition in Multi-User Environments Preprint Version 1.0 (2026)

Preprint, Zenodo. DOI: 10.5281/zenodo.20549987

- Dursunoglu, H. I., Sulkalar K. (2026).
  SEMA-GUARD: Semantic and Graph-Based Vulnerability Detection in Assembly Code
  Preprint, Zenodo. DOI :10.5281/zenodo.20550170

- Dursunoglu, H. I., Sulkalar K. (2026).
  Security Weaknesses in LLM-Generated Source Code: An Empirical Vulnerability Analysis of Iterative AI-Assisted Development v1.0
  Preprint, Zenodo. DOI :10.5281/zenodo.20550245

Invited Talks and Professional Contributions

RSAC Conference Subject Matter Expert Contributor (2026)

Media & Professional Recognition

Featured by RSAC Conference as a subject matter expert contributor in the article "Closing the Door on AI Impersonation with Synchronization Scoring," discussing enterprise-focused deepfake detection and artificial intelligence security challenges (2026). Available online: RSAC Conference Blog

Professional Service

- Reviewer, Journal of Open Source Software (JOSS), 2026–Present.
- Reviewer, Journal of Open Research Software (JORS), 2026–Present.
- Committee Member, Undergraduate Honors Thesis Committees, Western Michigan University.
- Mentor and Advisor for Senior Design Project Teams, guiding software engineering and cybersecurity projects from concept to implementation.
- Organized and led a cybersecurity-focused coding competition involving more than 130 high school students.

Community and STEM Outreach

- Organized and led a coding competition involving more than 130 high school students, promoting STEM education and cybersecurity awareness.
- Mentored students in startup-oriented projects and technology innovation initiatives.
- Contributed to cybersecurity workforce development through experiential learning and industry-aligned curriculum design.

Professional Memberships

- Member, IEEE (Institute of Electrical and Electronics Engineers)
- Member, ACM (Association for Computing Machinery)

- Member, ACM SIGSAC (Special Interest Group on Security, Audit and Control)

Research Activities

- Ongoing work in artificial intelligence security and deepfake detection.
- Applied research in secure systems and system-level protection.
- Focus on practical cybersecurity challenges and real-world system security applications.

Certifications

IBM Cybersecurity Architecture
IBM Cybersecurity Roles, Processes & OS Security
IBM Cybersecurity Compliance Framework
Google Cybersecurity Specialization
Advanced Threat Hunting and Incident Response

Technical Skills

Programming: Python, Java, C, C++, Flutter
Security: Penetration Testing, SSDLC, Threat Modeling, Network Security
Software Engineering: REST APIs, Object-Oriented Design, Agile/Scrum

Languages

Turkish (Native)
English (Fluent)
Russian (Conversational)