ERION PLAKU

✉ eplaku@nsf.gov   🌐 erionplaku.github.io   🪪 U.S.A

Driving impactful AI initiatives at the national level

💼 EMPLOYMENT

U.S. National Science Foundation

Senior Advisor for Artificial Intelligence *Directorate for Computer and Information Science and Engineering (CISE)*	*2025–present*
Program Director (Federal), *CISE*	*2023–present*
Program Director (IPA), *CISE*	*2019–2022*

George Mason University

Associate Professor, *Department of Computer Science*	*2020–2023*

Catholic University of America

Associate Professor, *Department of Electrical Engineering and Computer Science*	*2016–2020*
Assistant Professor, *Department of Electrical Engineering and Computer Science*	*2010–2016*

Johns Hopkins University

Adjunct Assistant Professor, *Department of Computer Science*	*2010–2012*

🎓 EDUCATION

Johns Hopkins University	*Postdoctoral Researcher in Computer Science*	*2008–2010*
Rice University	*Ph.D. in Computer Science*	*2002–2008*
Clarkson University	*M.S. in Computer Science*	*2000–2002*
SUNY Fredonia	*B.S. in Computer Science*	*1996–2000*

👥 LEADERSHIP AND PROGRAM MANAGEMENT

NSF CISE Senior Advisor for Artificial Intelligence   *2025–present*

Serves as the senior expert and strategic advisor on AI within the CISE Directorate, guiding research directions, policy development, and cross-directorate and cross-agency AI initiatives

NSF AI Steering Committee (Co-Chair)   *2025–present*

Co-chairs the NSF AI Steering Committee, providing strategic leadership and coordination across NSF directorates to shape national AI research priorities and initiatives

NSF National AI Research Institutes Program (Co-Lead)   *2023–present*

*Co-leads NSF's flagship AI program, managing a **$640M** investment in 29 AI Institutes to accelerate high-impact research and applications across sectors via collaboration with academia, government, and industry*

NITRD AI R&D Interagency Working Group (Co-Chair)   *2025–present*

Leads interagency coordination of federal AI R&D efforts across 32 agencies, driving strategic initiatives to strengthen U.S. leadership in AI

NSF Robust Intelligence (Program Director)   *2019–2022, 2023–present*

Manages core research program driving advancements in AI, machine learning, computer vision, human language technologies, and computational neuroscience

NITRD Intelligent Robotics and Autonomous Systems IWG (Co-Chair)   *2021–2022*

Led interagency coordination of R&D across 28 federal agencies, accelerating innovation in resilient and efficient robotics and autonomous systems

Foundational Research in Robotics (Co-Lead)   *2020-2022*
National Robotics Initiative (Co-Lead)   *2019-2022*

Led NSF's flagship robotics initiatives, supporting groundbreaking research to advance next-generation robotics and autonomous systems

International AI Partnerships   *2021–2022*

Advanced international partnerships in AI between NSF and Japan's Science and Technology Agency and UK's Engineering and Physical Sciences Research Council

Strategic Leadership & Team Alignment

Proven ability to inspire, lead, and align cross-functional teams toward a unified vision, driving successful outcomes through clear goal-setting, collaborative execution, and fostering a culture of innovation

Executive Communication & Stakeholder Engagement

Proven ability to convey complex technical concepts to a broad spectrum of stakeholders, from technical experts to executive leadership, ensuring clear understanding and alignment for informed decision-making

🏆 SELECTED AWARDS

NSF Special Acts Award   *2025*

NSF Director's Award for Superior Accomplishments   *2021*

Finalist – Best Application Paper   *2021*

*McMahon J and **Plaku E**: "Dynamic Multi-Goal Motion Planning with Range Constraints for Autonomous Underwater Vehicles Following Surface Vehicles." IEEE International Conference on Automation Science and Engineering   pp. 704–711*

Best Robotics Paper   *2017*

*Le D and **Plaku E**: "Cooperative Multi-Robot Sampling-Based Motion Planning with Dynamics." International Conference on Planning and Scheduling   pp. 513–521*

Best Student Paper   *2015*

*Wells A and **Plaku E**: "Adaptive Sampling-Based Motion Planning for Mobile Robots with Differential Constraints." Springer LNCS: Towards Autonomous Robotic Systems   vol. 9287, pp. 283–295*

Kaman Excellence in Research Award   *School of Engineering, Catholic University of America*   *2015*

Faculty Research Fellowship   *Office of Naval Research, U.S. Naval Research Laboratory*   *2014*

Burns Fellowship   *School of Engineering, Catholic University of America*   *2011*

🤖 RESEARCH AND TECHNICAL ACCOMPLISHMENTS

Robotics & Autonomous Systems

Motion Planning & Control: Led innovations in AI-integrated motion planning deployed across robotic domains to enable fast, efficient, and adaptive autonomy

Task-Oriented Autonomy: Advanced task and motion planning methods that empower robots to autonomously execute high-level missions with minimal supervision

Multi-Robot Coordination: Developed scalable coordination strategies for autonomous teams, enabling collaborative decision-making in dynamic, real-world settings

Natural Language Integration: Leveraged large language models to enable robots to understand and act on human intent expressed in natural language

AI & Machine Learning

AI-Driven Decision-Making: Designed scalable decision systems combining search, planning, and reasoning to optimize complex, high-impact operations

Generative AI & LLMs: Integrated large language models to enhance knowledge access, automate reasoning, and strengthen human-AI collaboration

Deep Learning & Reinforcement Learning: Applied deep and reinforcement learning to enable real-time adaptation and performance optimization in dynamic environments

Uncertainty & Probabilistic Modeling: Advanced AI robustness through probabilistic reasoning and Bayesian inference for reliable decision-making under uncertainty

AI Scalability: Scaled complex AI solutions using distributed computing frameworks to support large-scale planning, search, and learning

Industry Applications & Cross-Domain Impact

Defense: Delivered AI-powered autonomy across air, land, sea, and undersea platforms, enhancing mission success, resilience, and operational efficiency

Healthcare & Medical Systems: Applied AI in robotic-assisted surgery to improve precision, training efficacy, and patient safety in high-stakes clinical environments

Manufacturing & Logistics: Enabled intelligent mobility and coordination in warehouse automation, driving cost reduction, scalability, and supply chain optimization

Publications

95+ papers in AI and robotics conferences and journals, full list: erionplaku.github.io

Teaching

Taught undergraduate and graduate courses in AI, ML, Robotics, Data Mining, and Algorithms during academic tenure

🧩 INTERESTS

♟ Chess   *1982–present*

Former professional chess player with national and international competition experience; currently a recreational player with a Chess.com Blitz rating of 2475

⚽ Soccer   *1981–present*

Longtime soccer player with active participation in organized recreational leagues