Driving impactful AI initiatives at the national level

EMPLOYMENT

U.S. National Science Foundation	
Acting Senior Advisor for Artificial Intelligence Directorate for Computer and Information Science and Engineering (CISE)	07/2025-present
Program Director (Federal) , CISE/Information and Intelligent Systems Program Director (IPA) , CISE/Information and Intelligent Systems	12/2023-present 08/2019-08/2022
George Mason University	
Associate Professor, Department of Computer Science	08/2020-12/2023
Catholic University of America	
Associate Professor, Department of Electrical Engineering and Computer Science Assistant Professor, Department of Electrical Engineering and Computer Science	08/2016-08/2020 08/2010-08/2016
Large and the second	
Johns Hopkins University	
Adjunct Assistant Professor, Department of Computer Science	08/2010-07/2012

EDUCATION

Johns Hopkins University	Postdoctoral Researcher in Computer Science	08/2008-08/2010
Rice University	Ph.D. in Computer Science	08/2002-07/2008
Clarkson University	M.S. in Computer Science	08/2000-05/2002
SUNY Fredonia	B.S. in Computer Science	08/1996-05/2000

LEADERSHIP AND PROGRAM MANAGEMENT

NSF CISE Acting Senior Advisor for Artificial Intelligence

07/2025-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)

07/2025-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)

12/2023-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)

07/2025-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)

08/2019-08/2022, 12/2023-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)

07/2021-08/2022

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) National Robotics Initiative (Co-Lead)

02/2020-08/2022 08/2019-05/2022

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

International AI Partnerships

07/2021-08/2022

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

T SELECTED AWARDS

NSF Special Acts Award

NSF Director's Award for Superior Accomplishments

2021

2025

Finalist - Best Application Paper

2021

2011

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

RESEARCH AND TECHNICAL ACCOMPLISHMENTS

Robotics & Autonomous Systems

Motion Planning & Control: Led innovations in Al-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

Al-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 Al robustness through probabilistic reasoning and Bayesian inference for reliable decision-making under uncertainty

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

Industry Applications & Cross-Domain Impact

Defense: Delivered Al-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 Al 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

İğ 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