

Ioannis Panitsas

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Research Area

I am a third-year Ph.D. candidate in the Department of Electrical and Computer Engineering at Yale University, specializing in the development of intelligent, scalable, and automated closed-loop control algorithms for optimizing the performance and security of next-generation networks.

Education

Yale University , New Haven, CT, USA Ph.D. Candidate in Electrical and Computer Engineering Advisor: Prof. <i>Leandros Tassiulas</i>	08/2022 – 08/2028
Yale University , New Haven, CT, USA M.Sc. in Electrical and Computer Engineering	08/2022 – 12/2023
School of Military Engineering , Loutraki, Greece 2nd Lieutenant, Engineering Corps, Hellenic Army	03/2021 – 05/2022
University of Patras , Patras, Greece B.Sc. & M.Sc. in Electrical and Computer Engineering Advisor: Prof. Dimitrios Serpanos	09/2016 – 07/2021

Working Experience

Research Scientist Intern , Kryptowire Labs – Arlington, VA, USA • Integrated OSM MANO with OpenStack to deploy an OAI-based 5G end-to-end network, utilizing Kubernetes and Helm for orchestration and management. • Developed a deep reinforcement learning algorithm for the optimal placement of VNFs in network slices across heterogeneous cloud infrastructures.	07/2024 – 08/2024
Embedded Software Engineer Intern , Renesas Electronics – Patras, Greece • Developed and executed security vulnerability tests targeting the Bluetooth Low Energy (BLE) 5.0 protocol at the link layer, implementing over-the-air attacks such as connection request crashes, denial-of-service (DoS) exploits, invalid sequence injections, and induced deadlock conditions. • Verified the effectiveness of these attacks using a packet sniffer and commercial handhelds.	08/2020 – 10/2020

Teaching Experience

Teaching Assistant , Yale University – New Haven, CT, USA • Course: Introduction to Computing for Engineers and Scientists, ENAS 130	01/2025 – 05/2025
Teaching Assistant , Yale University – New Haven, CT, USA • Course: Introduction to Communications and Control, EENG 202	08/2024 – 12/2024
Teaching Assistant , Yale University – New Haven, CT, USA • Course: Introduction to Computing for Engineers and Scientists, ENAS 130	01/2024 – 05/2024

Publications

- **I. Panitsas**, Y. Yigit, L. Maglaras, L. Tassiulas, and B. Canberk, "JamShield: A Machine Learning Detection System for Over-the-Air Jamming Attacks," *Proceedings of the IEEE International Conference on Communications (ICC)*, 2025.
- **I. Panitsas**, Y. Yigit, L. Maglaras, L. Tassiulas, and B. Canberk, "JamShield Dataset" available on *IEEE Dataport*
- Y. Yigit, **I. Panitsas**, L. Maglaras, L. Tassiulas, and B. Canberk, "Cyber-Twin: Digital Twin-boosted Autonomous Attack Detection for Vehicular Ad-Hoc Networks," in *Proceedings of the IEEE International Conference on Communications (ICC)*, 2024.
- **I. Panitsas**, A. Mudvari, and L. Tassiulas, "D2Q Synchronizer: Distributed SDN Synchronization for Time-Sensitive Applications," submitted to *IEEE ICMLCN*, 2025.
- **I. Panitsas**, A. Mudvari, A. Maatouk, and L. Tassiulas, "A Deep and Transfer Learning Approach for Handover Management in O-RAN," Pre-print, 2025.

Workshops

- **CyberPowder Fellows Program 2025**, University of Utah, Salt Lake City, UT, USA
Experimentation with the POWDER platform for hands-on training and research in wireless networking, focusing on advanced wireless testbeds and multidisciplinary research methodologies.
- **Open AI Cellular (OAIC) Workshop 2024**, Mississippi State University, Starkville, MS, USA
Experimentation with the OAIC platform for developing AI-driven RAN controllers for 6G research.
- **Young Gladiators Workshop 2024**, Northeastern University, Boston, MA, USA
Explored and experimented with Colosseum, the world's largest wireless emulator, for advancing 6G research.

Awards

- CyberPowder Fellows Program (2024)
- Gerondelis Foundation Graduate School Grant (2024)
- Yale University Graduate Fellowship (2022)

Skills

- **Programming:** Python, C/C++, OpenMP, JavaScript, Java, SQL, MongoDB, HTML, CSS, Node.js
- **Tools:** Docker, Kubernetes, Helm

Languages

- English (fluent), Greek (native)