Zoe Panou

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Computer Engineer

Automation · Data · Predictive Maintenance · Digital Twins · LLMs

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About me

I am a graduate of Computer Engineering and Informatics Department at the University of Patras, with strong background in Machine Learning, Predictive Maintenance and Cloud Technologies, motivated to apply data-driven solutions in industrial production, manufacturing processes and automation environments. My thesis work focused extensively on these areas, demonstrating my commitment to advancing knowledge and contributing to my field. Currently, I am working as an associate researcher at the Athena Research and Innovation Center contributing to EU-funded projects related to LLM-assisted network optimization in Beyond 5G networks, with a focus on automation, data-driven system optimization and intelligent monitoring, aligned with Industry 4.0 principles.

Education

MEng in Computer Engineering

University of Patras, Greece · **2019 — 2024**

Thesis topic: "Digital Twin-Driven Predictive Maintenance: Integrating Machine Learning and Cloud Technologies for Enhanced Vehicle Fault Detection"

Experience

Associate Researcher

Athena R&I Center, Greece · **10/2024 — Present**

Skills

📈 **Data Analytics and Machine Learning:** Python, Scikit-learn, TensorFlow, Pandas, NumPy

</> **Web Development:** HTML, CSS, JavaScript, PHP

🗄 **Database Querying:** MySQL, SQLite, MongoDB

☁ **Cloud:** Docker, Kubernetes

Publications

Z. Panou, G. Scivoletto, G. Bernini, A. Siokis, K. Ramantas, and C. Verikoukis, "Digital Twin-Driven Zero-Touch Fault Detection for Predictive Maintenance in Connected Automotive Systems," to appear in *Proc. IEEE Conf. on Network Function Virtualization and Software Defined Networks (NFV-SDN), 2025.*