

Stelios Zarifis

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Summary

Fellow Researcher at the **Hellenic Robotics Center of Excellence (HERON-CoE) & Athena Research Center (Athena RC)**, working on **Reinforcement Learning** and its applications in **Robotics** and **Multimodal Artificial Intelligence**, as well as the development of self and world models through interaction with the environment.

Graduate of the School of Electrical and Computer Engineering (ECE) at the National Technical University of Athens (NTUA), with specialization in Computer Science and focus on Machine Learning. Diploma Thesis in the field of Machine Learning involving diffusion models for probabilistic multivariate time series forecasting and Reinforcement Learning / Optimization techniques for decision-making.

Serving also as **Teaching Assistant** for the Machine Learning Course of ECE–NTUA (Fall 2025).

Member of: IEEE, IEEE Computer Society, IEEE Robotics and Automation Society, AAAI, EURASIP.

Research Experience

PhD Candidate (HERON-CoE Fellow): School of ECE, NTUA 2025/11 – Present

- Developmental & Multi-Modal Artificial Intelligence
- Self & World Modeling for Robotic Systems

Researcher: HERON-CoE & Athena Research Center 2025/07 – 2025/10

- Developmental & Multi-Modal Artificial Intelligence

Undergraduate Research Fellow: Athena Research Center 2025/01 – 2025/06

- Stochastic System Optimization using Diffusion Models

Reviewer: IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2026)

- Technical paper reviewer

Reviewer Assistant: IEEE International Conference on Robotics and Automation (ICRA 2026)

- Assist in review under supervision of postdoctoral researcher

Teaching Experience

Teaching Assistant: School of ECE, National Technical University of Athens 2025/11 – Present

- Machine Learning Course

Education

School of ECE, National Technical University of Athens 2020 – 2025

Graduation Grade: 8.78 / 10

2nd General Lyceum of Chalandri 2016 – 2019

Graduation Grade: 19.2 / 20

Publications

- S. Zarifis, I. Kordonis, and P. Maragos, “Diffusion-Based Scenario Tree Generation for Multivariate Time Series Prediction and Multistage Stochastic Optimization.” **Submitted** to the 51st IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP 2026).
- S. Zarifis, I. Kordonis, and P. Maragos, “Diffusion-Based Forecasting for Uncertainty-Aware Model Predictive Control,” in 2025 33rd European Signal Processing Conference (EUSIPCO), Palermo, Italy, 2025, pp. 1877–1881. (**Accepted**)
- Zarifis S., et al. “Baby Sophia: A Developmental Approach to Self-Exploration through Self-Touch and Hand Regard” (2025), for the *IEEE International Conference on Development and Learning (ICDL 2025)*, BabyBench Competition.

Conferences

- 2025/09 IEEE EUSIPCO – Poster Presentation.
- 2025/09 IEEE ICDL – Competition Participation.
- 2025/07 Greeks in AI Symposium – Poster Presentation.
- 2023/06 IEEE ICASSP – Attendance.

Seminars

- 2022/02 Unmanned Air Systems Common Module, Hellenic Air Force Academy & European Security & Defense College

Technical Skills

Programming: Python, Matlab, R

Machine Learning: PyTorch, TensorFlow, Scikit-Learn, Keras, OpenCV, Torchvision

Reinforcement Learning: IsaacLab, OpenAI Gym, Stable Baselines

Optimization: Gurobi, CVXPY, SciPy

Time Series: GluonTS, PyTorchTS, MATLAB

Data Analysis: NumPy, Pandas, Matplotlib, Seaborn

Languages

Greek: Native

English: TOEFL iBT (12/2024) | Certificate of Proficiency in English, University of Michigan (2016)

Competitions

- 2014–2017 Participation in Hellenic Mathematical Society Competitions *Euclid* and *Thales*.
- 2015 Participation in the 33rd National Mathematical Olympiad “Archimedes”.
- 2011–2012 Participation in Hellenic Mathematical Society *Little Euclid* Competitions.

Memberships

- IEEE, IEEE Computer Society, IEEE Robotics & Automation Society Member
- AAAI Member
- EURASIP Member