Alexandros Angelakis

aggelakisal@gmail.com | Homepage • LinkedIn • GitHub

Experience

IACM, Foundation of Research and Technology, Hellas — Heraklion, Greece
Research Intern — July 2022 - Present

- Lead developer of NeuroDiMe, a Python library for neural-based statistical distance estimation (e.g., f-divergences, IPMs) within a unified framework supporting PyTorch, JAX, and TensorFlow. Deployed in cutting-edge AI workflows including β-VAE representation learning and GAN/VAE generative modeling. Supported by Apple Inc. through IACM since June 2024.
- Designed and implemented graph traversal algorithms for optimal sensor placement in Water Distribution Networks, enabling accurate leak localization (Python, GeoPandas, NetworkX, GIS).

Speech Signal Processing Laboratory, UoC, CSD — Heraklion, Greece
Research Intern — June 2024 - Present

- Developed deep learning models for Tuberculosis detection from cough audio signals, achieving robust classification between healthy and unhealthy samples (Python, Sklearn, TensorFlow).
- Contributed to building and evaluating a 20-hour multi-speaker Greek speech dataset, training state-of-the-art text-to-speech models with ESPnet.

Education

University of Crete — Heraklion, Greece
MSc. Computer Science and Engineering, Grade: 9.58/10.00 (Excellent) — Feb. 2024 - Present

- Thesis: Adaptive Sinusoidal Models for Parkinson's disease.
- Specialization: Artificial Intelligence, Machine Learning, Signal Processing.
- Teaching Assistant: Applied Mathematics for Engineers and Digital Signal Processing (lecturing, supervision, grading).

University of Crete — Heraklion, Greece
BSc. Computer Science, Grade: 8.77/10.00 (Excellent) — Sept. 2019 - July 2023

- 4x IKY National Excellence Scholarship recipient (2020-2023)
- Chrysanthos and Anastasia Karidis Scholarship for top performance in national entrance exams. (2021)
- Teaching Assistant: Applied Mathematics for Engineers, Probabilities, and Information System Analysis and Design (lecturing, student supervision and grading).

Skills

Programming: Python, MATLAB, C, Java
Frameworks: PyTorch, Tensorflow, JAX, Numpy, Pandas, Scikit-Learn, Scipy
Databases: SQL, PostgreSQL
Languages: English (Proficient), Greek (Native)

Selected Projects

Diabetes Prediction with Machine Learning. Built an end-to-end AutoML pipeline for real-world diabetes prediction, integrating class balancing, model selection, and nested cross-validation for robust performance (Python, Scikit-Learn, 2025).

Digital Speech Processing Projects. MATLAB-based implementations covering voice activity detection, LPC coding, sinusoidal modeling, and speaker identification. Projects involve hands-on speech signal analysis, enhancement, and classification using real-world audio datasets (2023).

AlphaCompiler. A complete compiler and virtual machine for the Alpha programming language (JavaScript-like syntax), developed from scratch, 2022. (C, Lex, Yacc/Bison)

Volunteering

Presenter — Feb. 2024
University of Crete, Computer Science Department
Delivered outreach presentations to high school students, highlighting cutting-edge research and real-world applications from the Speech Signal Processing Laboratory.

Peer Mentor — Sep. 2022 - June 2023
University of Crete, Computer Science Department
Guided first-year students through the STEER mentoring program, fostering academic success and community integration.