

Alexandros Angelakis

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Experience

Speech Signal Processing Laboratory, UoC, CSD

Heraklion, Greece

Research Intern

June 2024 - Present

- Architected and trained robust diagnostic models to detect Tuberculosis in cough audio, leveraging TensorFlow and Scikit-learn for signal processing and classification.
- Contributed to the development and evaluation of a novel, high-quality, multi-speaker Greek speech dataset; trained and optimized state-of-the-art TTS architectures, including FastSpeech2, VITS, Tacotron2 and HiFi-GAN, using the ESPnet framework.

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 (ending June 2025).
- Designed and implemented graph traversal algorithms for optimal sensor placement in Water Distribution Networks, enabling accurate leak localization (Python, GeoPandas, NetworkX, GIS).

Education

University of Crete

Heraklion, Greece

MSc. Computer Science and Engineering, Grade: 9.64/10.00 (Excellent)

Feb. 2024 - Present

- Thesis: Adaptive Sinusoidal Models for Parkinson's disease, supervised by Dr. George Kafentzis.
- Specialization: Artificial Intelligence, Machine Learning, Signal Processing.
- Teaching Assistant: Applied Mathematics for Engineers, Digital Signal Processing and Digital Speech 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. Completed for the Digital Speech Signal Processing course taught by Prof. Yannis Stylianou. 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.