

Emmanouil Lantzourakis

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Summary

Licensed Electrical and Computer Engineer and MSc candidate in Data Analysis & Machine-Statistical Learning. Strong background in empirical machine learning, experimental systems, and algorithmic reasoning, with experience spanning physical experimentation and data-driven modeling. Seeking to further develop research at the intersection of empirical inference, robustness, and causal structure learning.

Education

- Relevant coursework: Machine Learning, Numerical Algorithms, Data Structures, Data Science.
 - Focus areas: inductive learning, statistical inference, model generalization.
 - Intended thesis direction: empirical inference and model identification under limited, noisy, or partially observed data.

Integrated MEng in Electrical & Computer Engineering
Technical University of Crete

Graduation: 2023

Chania, Greece

- Five-year integrated engineering degree (EQF Level 7) with strong mathematical and algorithmic foundation.
 - Core training in signal processing, control systems, algorithms, databases, and low-level programming.
 - Undergraduate thesis: *Experimental investigation of shunted piezoelectric circuits for the damping of mechanical oscillations.*
 - Conducted experimental measurements and analyzed the effect of circuit-level interventions on mechanical vibration attenuation.
 - Addressed challenges arising from noisy measurements, limited experimental samples, and partial observability of the physical system.

Experience

Electrical Engineering Intern

BIOPIX DNA TECHNOLOGY S.A.

May 2025 – July 2025
Greece

- Contributed to engineering tasks in a biomedical technology environment
 - Worked with instrumentation and system-level components across multiple testing and validation cycles.
 - Analyzed experimental measurement data to support system verification, troubleshooting, and quality control.
 - Gained exposure to engineering workflows

Selected Projects

Formula 1 Next-Lap Race Pace Prediction

Python, pandas, scikit-learn, XGBoost, FastF1

- Built and evaluated supervised learning models for next-lap time prediction using publicly available Formula 1 race data.

- Engineered feature representations and assessed model performance on held-out race sessions and circuits.
- Explored circuit-level characteristics related to aerodynamic versus engine sensitivity and their effect on prediction behavior.
- Emphasized empirical inference under partial observability using real-world data.

Source-to-Source Compiler for Custom Language

C, Flex, Bison

- Implemented a source-to-source compiler translating a custom-designed language into C.
- Designed lexical analysis, parsing, and syntax-directed translation using Flex and Bison.
- Focused on formal structure, program analysis, and correctness of generated code.

Android Recipe Application (Ongoing)

Kotlin, Jetpack Compose, DataStore

- Developed a Kotlin-based Android application to support constraint-based filtering of high-protein recipes.
- Project under active development with emphasis on modular data representation and extensibility.

Military Service

Mandatory Military Service

Greek Armed Forces (Cyprus)

2024

Greece & Cyprus

- Served in the Research and Information Office, providing IT and technical support.
- Assigned company-level NCO responsibilities including service scheduling, personnel coordination, and daily operational oversight.
- Operated effectively under constrained, hierarchical, and high-responsibility conditions.

Awards & Distinctions

- Awarded multiple times in national Thales and Euclid mathematical competitions during high school.

Certifications & Professional Registration

- Licensed Electrical and Computer Engineer, Technical Chamber of Greece (TEE).
- Certified in First Aid, Hellenic Red Cross.

Methods Exposure

Supervised learning, empirical risk minimization, feature engineering, cross-validation, generalization assessment, robustness analysis, signal processing, experimental system identification, intervention-based analysis.

Skills

Programming: Python , Kotlin , Java , C/C++ , SQL , MIPS Assembly

Machine Learning: scikit-learn, XGBoost, inductive learning, feature engineering, ROC/AUC

Data & Tools: pandas, NumPy, Git/GitHub, VS Code, Jupyter

Research Interests: empirical inference, causal discovery, time series, performance modeling

Languages

Greek (Native), English (Fluent)