

Nikolas Kougioulis

Experience

Oct 2023 – **Research Engineer, Foundation for Research & Technology Hellas, Heraklion, Present** Greece.

Contributed to ~300K€ private funding for industrial AI research. Developed methods for Causal AI:

- Built *foundation models for causal discovery* on time-series data
- Designed algorithms for *causal digital twin simulation, root cause analysis, and counterfactual decision optimization*
- Achieved *target KPIs* (Precision, Recall > 0.9) on data cases
- Delivered production-ready pipeline under recurring executive reviews
- Technical results contributed to supporting successful 2.5M€ EIC Transition award on Causal AI for Optimal Decision Making.

Areas: ▪ Causal AI ▪ Deep Learning ▪ Machine Learning

Skills: ▪ Python ▪ PyTorch ▪ Pandas ▪ NumPy ▪ Scikit-learn ▪ Git ▪ Software Engineering

Sep 2022 – Jun 2025 **Teaching Assistant, Department of Computer Science, University of Crete, Greece.**

○ **CS-487 Introduction to Artificial Intelligence** (Fall 2023,24) - Prof. Ioannis Tsamardinos; 4th year course.

○ **CS-119 Linear Algebra** (Spring 2023,24,25) - Prof. Ioannis Tsamardinos; 1st year course.

○ **CS-100 Introduction to Computer Science** (Fall 2022) - Assist. Prof. Polyvios Pratikakis; 1st year course.

Aug – Oct 2017 **Data Analyst Intern, Psychological Technologies Ltd, London, United Kingdom.**

Successfully extracted, analyzed and presented key wellbeing indicators from real data, collected using the Experience Sampling Method (ESM) via a proprietary mobile app.

Skills: ▪ Data analysis ▪ Data storytelling ▪ R

Education

Nov 2025 **MSc in Computer Science & Engineering, Department of Computer Science, University of Crete, Greece.**

Thesis: Large Causal Models for Temporal Causal Discovery

Advisor: Prof. Ioannis Tsamardinos

GPA: 9.50/10.00

Areas: ▪ Causal AI ▪ Machine Learning ▪ Deep Learning

Nov 2021 **BSc in Mathematics**, Department of Mathematics, Aristotle University of Thessaloniki, Greece.

Areas: ▪ Pure Mathematics ▪ Applied Mathematics

Military Service

Military obligations fulfilled.

Publications & Manuscripts

- arXiv preprint **Large Causal Models for Temporal Causal Discovery**
2026 Nikolaos Kougioulis, Nikolaos Gkorgkolis, MingXue Wang, Bora Caglayan, Dario Simionato, Andrea Tonon & Ioannis Tsamardinos (arXiv 2602.18662).
- arXiv preprint **Temporal Causal-based Simulation for Realistic Time-series Generation**
2025 Nikolaos Gkorgkolis, Nikolaos Kougioulis*, MingXue Wang, Bora Caglayan, Andrea Tonon, Dario Simionato & Ioannis Tsamardinos (arXiv 2506.02084).

Skills

- Languages ▪ English (Proficient) ▪ French (Upper Intermediate) ▪ Greek (Native)
Prog. Python (PyTorch, NumPy, Pandas, Scikit-learn), SQL, C
Tools git, vim, Linux, Powerpoint

Awards & Distinctions

Jul 2019 **3rd Place Overall in Formula Student ATA 2019.**

Part of the arist.u.r.t.le team, represented Aristotle University of Thessaloniki in international competitions.

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* Authors contributed equally to this work.