

Thomas Kopalidis

PHYSICIST - DATA SCIENTIST - AI ENGINEER

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Linkedin

GitHub

Personal Site

ABOUT ME

Technical Skills R, SQL, Python (NumPy, (Geo)Pandas, Matplotlib, PyTorch, Seaborn, Scikit-Learn, OpenCV), GIS, SPSS, PowerBI, SciPy, Keras, Folium, PySpark, Flask, APIs, MS Office Global Cert (Excel, PowerPoint, Word, Access), MATLAB, Azure (Databricks), Fidelio Opera, LaTeX.

- Publication**
1. Nikiforidis, A...., **Kopalidis, T.**, et al. (2026) Transforming Urban Mobility Behavior through Gamification and Local Incentives in Thessaloniki, Greece (accepted).
 2. Kopalidis, T., et al. (2024). Authored of "Advances in facial expression recognition: a survey of methods, benchmarks, models, and datasets. *Information*, 15(3), 135". DOI: [10.3390/info15030135](https://doi.org/10.3390/info15030135) (Highly Cited Article - top100 most-cited authors in information)

Languages English (Fluent), French (Intermediate), Greek (Native).

Interests Travell, Read History Books, Gym, Chess, Sudoku

Military Service Fulfilled

GR (Oct 2019 - June 2020)

WORK EXPERIENCE

Operational Data Analyst & Financial Reporting – Night Auditor

Elysium

Rhodes, GR (May 2025 - Nov. 2025)



- Designed executive dashboards (Excel/BI) to visualize Year over Year trends and demographics (e.g., top markets: Germany 27%, UK 15%), translating KPIs into revenue strategies.
- Managed daily financial reconciliation for 300+ rooms via Fidelio Opera PMS, analyzing peak traffic days (Sundays) to optimize staffing and resource allocation.

Data Scientist & AI Engineer

CERTH ITI

Thessaloniki, GR (May 2022 - Feb 2025)



- **Medical AI (Heart Failure Project):** Engineered an NLP-driven Clinical Decision Support System (CDSS) to calculate MAGGIC risk scores from raw clinical text and create 3 different categories. Integrated LLMs to translate technical risk metrics into plain-language recommendations, validated by a clinical study of 50 cases.

- **Neurodegenerative Disease Health:** Designed a lightweight Custom CNN (3 Conv Layers, 1024 Dense Units) using Keras/TensorFlow for Facial Expression Recognition (FER). Achieved 62% accuracy on the FER-2013 dataset, outperforming SOTA VGG-Face models in efficiency for specific demographics.

- **Smart Mobility:** Architected a full-stack pipeline (Flask, PostgreSQL) for user mobility tracking. Implemented SQL indexing strategies that reduced data retrieval time by 30%. Developed a Random Forest model for transport mode detection (bus, car, walking, micromobility, multimodal) achieving 85% accuracy. Co-developed the [HIT application](#) backend.



- **Real Estate Predictive Modeling:** Built an ML pricing pipeline for 10,000+ property records. Conducted rigorous EDA and feature selection to mitigate multicollinearity and achieved an R^2 of 0.80 using optimized Random Forest Regressors.



- **Environmental Monitoring & Disaster:** Processed multi-modal sensor data (LiDAR/RGB) to create robust training datasets, directly enabling the deployment of AI models for environmental hazard detection in disaster scenarios.



Medical Physics and Data Analysis Intern

AHEPA University of Hospital of Thessaloniki

Thessaloniki, GR (June 2019 - Sep 2019)

Tutor

Teaching Physics, Mathematics, Biology, Chemistry and Informatics to adolescents of Secondary School, High School, and Anatolia College.

RESEARCH EXPERIENCE

AI & DL Group

Graduate Student

Athens, GR (Oct. 2025 – Feb 2026)

- **Natural Disaster Classification:** Built an automated pipeline aggregating real-time data via Public APIs (NASA EONET, USGS) for disaster categorization.

- **Bank Customer Churn Prediction:** Developed an end-to-end churn prediction system using XGBoost, CatBoost, and AdaBoost. Deployed as a web app on Hugging Face to identify at-risk customers ([Bank churn API](#)).
- **Chest X-Ray Pneumonia Detection:** Engineered a dual-approach diagnostic framework benchmarking Deep Learning (ResNet/UNET) against Classical ML (GLCM/LBP) with 9 different ML models. Achieved top-tier performance with an LightGBM model (95,2% F1-score, 097 AUC). Deployed as a web app on Hugging ([Pneumonia API](#)).

EDUCATION

Master's in AI & Deep Learning (90 ECTS)

University of West Attica

Athens, GR (2025 - 2026)



- English program (remote – evening courses)
- NVIDIA certification Adding New Knowledge to LLMs
- Rapid Application Development with Large Language Models (LLMs)

Master's in Health Statistics and Data Analytics (90 ECTS)

Aristotle University of Thessaloniki

Thessaloniki, GR (2022 - 2024)



- Specialization: Meta-analysis, Environmental epidemiology.
- Thesis. Kopalidis, T., E. Samoli (2023). Effect of short-term exposure to ambient temperature on pediatric hospital admissions in Athens. <https://doi.org/10.26262/heal.auth.ir.353982>

Certification on Google Data Analytics

Online in Google

Thessaloniki, GR (2021)

Bachelor's in Physics (244 ECTS)

Aristotle University of Thessaloniki

Thessaloniki, GR (2020)

- Specialization: Medical Physics, Nuclear Physics.

Certifications

The AI Engineer Course 2026: Complete AI Engineer Bootcamp

Thessaloniki, GR (2026)

- Complete AI Engineer Training: Python, NLP, Transformers, LLMs, LangChain, Hugging Face, APIs (30 hours) – Udemy

Microsoft Azure AI Essentials Professional Certificate

Thessaloniki, GR (2026)



Certification on PostgreSQL

Thessaloniki, GR (2026)

Certification on The Business Data Analyst

Thessaloniki, GR (2024)

Certification on Machine Learning

Coursera online courses London and Duke University

Thessaloniki, GR (2024)

- Developed my own machine learning project: collecting a dataset, training a model and testing it in 2-month seminar

Certification on Special Education

Patra, GR (2022 - 2023)



- Education Center for Lifelong Learning, University of Patras