

# Kopalidis Thomas

## Contact Details

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## Skills

- Teamwork
- Adaptability
- Problem Solving
- Decision-Making
- Reliability
- Analysis
- Presentation Skills
- Public Speaking
- Teaching Plan

## Languages

Greek – Mother Tongue

English – C2 ECPE

French – B1 CCL

German – A1

## Programming Languages

- Python
- R
- C
- Mathematica, Origin
- Pyspark
- Matlab
- Microsoft Office
- SPSS
- Git
- Flask
- MYSQL, SQL
- SAS

## Military Service

Fulfilled (Oct 2019 - June 2020)

## Hobbies

Chess, Tennis, Walking, Gym,  
Travelling, Reading History Books

## About Me

I hold a BSc in Physics and an MSc in Health Statistics and Data Analytics, with significant experience in machine learning and AI applications. I am interested in both research and teaching, and I believe that a great researcher should first be a great teacher. I believe teaching is not just about transferring knowledge, but about inspiring students to think critically and develop problem-solving skills. I am committed to creating an engaging and supportive learning environment where students can thrive, feel motivated, and gain confidence in their abilities. I approach teaching with patience and creativity, adapting my methods to meet the needs of every student and helping them understand complex concepts with clarity and ease.

## Education

**MSc in Health Statistics and Data Analytics, Medical School** of Aristotle University of Thessaloniki, Feb 2022 - Jan 2024, Grade: “**Excellent**”.

**MSc Thesis** on the “**Effect of short-term exposure to ambient temperature on pediatric hospital admissions in Athens**”, Sep 2023 – Jan 2024.

**Special Education**, University of Patras, KEDIVIM, 450 hours, 2023


**BSc in Physics, Science School** of Aristotle University Thessaloniki, Sep 2014 – July 2020, Grade: “**Very good**”.

## Working Experience

### CERTH ITI

**Sep 2024 – Feb 2025: Research Assistant and Data Scientist** 

I have been studying and working on Large Language Models (LLMs) which I combine with Machine Learning (Random Forest) to enhance their application in AI-driven solutions. I am enhancing the MAGGIC Risk Calculator to provide personalized mortality risk predictions for chronic heart failure patients. The algorithm analyzes each patient's data, assigns a MAGGIC score, and offers tailored recommendations based on medical guidelines. This improves risk stratification and clinical decision-making, optimizing treatment strategies through data-driven insights.

**Sep 2024 – Feb 2025: Data Scientist** 

As a Data Scientist, I conduct data analysis and develop efficient CNN-based algorithms like MoViNets and X3D for anomaly and sound event detection in limited-resource settings.

**Jan 2024 – Feb 2025: Data Scientist and Backend Engineering** 

I contribute to two parts of the UPPER project, TES\_08 and TES\_10. On TES\_08, I develop and integrate algorithms for various transportation modes including bus, car, walking, micromobility, shared car, and multimodal trips into the web application with flask. On TES\_10, I develop algorithms to validate user trips and identify transport modes using GPS data.

**May 2022 – Apr 2023: Research Assistant and Data Scientist** 

I contributed to the REvalue project by implementing an online service providing data-driven real estate pricing advice. I collaborated to create a model to identify prices of the houses, and I conducted analysis of housing data to uncover key features and patterns influencing property pricing and characteristics as well as research in graphs and transformers. I was also the author of Deliverable 3.1.

## Projects

1. I applied **statistical** models using **R**.
2. I developed **machine learning** models using **Python** and **R** for **health data** such as **Alzheimer Dataset** and **Heart Failure Prediction Dataset**.
3. **MAGGIC Risk Calculator Enhancement**: Enhanced the MAGGIC Risk Calculator, a machine learning algorithm that provides personalized mortality risk predictions for chronic heart failure patients, improving risk stratification and treatment strategies.

## Verified Certifications

- Accelerators and Detectors in Nuclear and Particle Physics
- Cell Biology: Mitochondria HarvardX
- Python
- The use of LASER in Medicine, Clinical Applications and Safe Operation
- Designing Lipid Nanoparticles Systems for COVID-19 Vaccines
- ECESCON12
- European Resuscitation Council
- Google Data Analytics Professional Certificate
- Microsoft Global Cert
- Machine Learning Certificates from London and Duke University
- Advanced Programming with Python.
- Honorary Distinction in School Mathematical Competition
- Information Security Fundamentals (CERTH)

### May 2023 – Sep 2023: Research Assistant and Data Scientist



I worked on implementing machine learning models that supported data integration from UAVs with multiple sensors for environmental assessments.

### May 2022 – Apr 2023: Research Assistant and Data Scientist



I was actively engaged in the TeNDER project focusing on deep learning methods for signal processing in patients with Parkinson or Alzheimer disease. I programmed using Python and R to integrate a model for Facial Expression Recognition (FER) and I performed statistical analysis to assess intervention effectiveness by comparing pre- and post- intervention data evaluating impacts on health and quality of life. I analyzed sensor data to detect patterns in disease progression for early symptom detection. Additionally, I examined population data to identify treatment response factors enabling personalized, optimized patient care. I was also the author of Deliverables D3.3 and D4.2.

## Publications

Kopalidis, T.; Solachidis, V.; Vretos, N.; Daras, P. *Advances in Facial Expression Recognition: A Survey of Methods, Benchmarks, Models, and Datasets. Information* 2024, 15, 135. <https://doi.org/10.3390/info15030135>.

### June 2019 - Sep 2020: Internship and Project – AHEPA University Hospital of Thessaloniki

My BSc **Internship** was in **Medical Physics** and **Data Analysis** at AHEPA University Hospital of Thessaloniki. I did my research in **spect imaging** “Applications of spect  $\gamma$ -Camera in the study of the effect of the acquisition radius on the semiquantitative measurements during brain striatum phantom spect imaging”.

### Dec 2018 - June 2019: Project in EMBS

Organizer in **EMBS (Engineering in Medicine and Biology Society)**, University Team, AUTH, Thessaloniki.

### Sep 2018 – Now: Teaching Experience

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