

# Karasmanoglou Apostolos

MSc Student Researcher

## PERSONAL INFORMATION

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*Birth* March 10th, 1998 (Aged 24)  
*Pronouns* He/Him

My name is Apostolos. I was born in Marousi, Athens, Greece and raised in Volos, Greece. I studied Electrical Computer Engineering at the University of Thessaly during 2016-2021, graduating with the highest GPA in my graduation series. I am currently studying as a Research Master's Student of the Electrical and Computer Engineering department of the Technical University of Crete, as a Member of the Digital Image and Signal Processing Lab (DISPLAY) researching Explainable Machine/Deep Learning methods applied in the context of anomaly detection for medical applications.

## CONTACT DETAILS

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*Address* Loulou 7 Chania 73133, Crete, Greece  
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*Mail* apostolis.kar98@gmail.com (Personal)  
akarasmanoglou@tuc.gr (Academic)  
*GitHub* <https://github.com/akarasman>  
*Linkedin* <https://www.linkedin.com/in/apostolos-karasmanoglou-2ab78a1b7/>

## EDUCATION

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**Sep 2016 - Sep 2021** Integrated MSc. Electrical and Computer Engineering

*University of Thessaly*

*GPA 9.49 (/10)*

*Thesis topic: Audio-Visual Speech Separation*

*Thesis supervisor: Gerasimos Potamianos* *Grade: 10 (/10)*

**Dec 2021 - Present** Research MSc. Electrical and Computer Engineering

*Technical University of Crete*

*Thesis topic: Explainable AI Methods for Anomaly Detection in Embedded Platforms*

*Thesis supervisor: Michalis Zervakis*

## WORK EXPERIENCE

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**Jul - Sep 2022** Technical Validation Report and Publication Writer

*xBAEΨΙΣ / xVLEPSIS Project*

Conducted technical validation and public activities reports.

**Dec 2022 - Present** Site Management & IT Support

*DISPLAY Lab TUC*

Website content management, Data Entry, Digitization and IT Support

## TEACHING EXPERIENCE

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**Feb - May 2020** Undergraduate Numerical Methods Lab Assistant

*University of Thessaly*

Assisted undergraduate students with numerical analysis code assignments in Matlab

**Sep 2020 - Sep 2022** Private Tutor

*Self Employed*

Provided private lessons to undergraduate students in university-level mathematics (Linear Algebra, Calculus, Telecommunication Systems, Signal Processing, Probability Statistics) and Programming (Matlab, Python, C)

## CONFERENCE PUBLICATIONS

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- A. Karasmanoglou, M. Antonakakis and M. Zervakis, "Heatmap-based Explanation of YOLOv5 Object Detection with Layer-wise Relevance Propagation," 2022 IEEE International Conference on Imaging Systems and Techniques (IST), 2022, pp. 1-6, doi: 10.1109/IST55454.2022.9827744.
- A. Karasmanoglou, M. Antonakakis, F. Pancalidi and M. Zervakis "Monitoring short-time novelty of Electrocardiogram signals for epileptic seizure anticipation using Unsupervised Anomaly Detection" Presented at: 2022 IEEE-EMBS International Conference on Biomedical and Health Informatics (BHI) - Special Session: Biomedical image and signal methods and applications for analysing human abnormal body responses

## SKILLS

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<i>Languages</i>	<b>Greek</b> Native language <b>English - C2 Level</b> University of Michigan certificate
<i>Programming</i>	Python, R, MATLAB, Julia, C/C++, C#, Java, SQL (T-SQL, MSSQL Server, MySQL), JavaScript, HTML/CSS, Bash
<i>Operating Systems</i>	Linux, Windows
<i>Tools</i>	Visual Studio / VS Code, Git/Github, Wandb Jupyter Notebook, Latex, Powershell

## **CERTIFICATIONS**

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**Nov 2022** Global Optimization Methods Theory, Techniques & MatLab Simulations

*ELEDIA Research Center / Aristotle University of Thessaloniki (AUTH)*

**Dec 2022** Regeneration Academy on Cloud Tools Technology

*Regeneration Academy - Athens Technology Hub*

## **SUMMER SCHOOLS**

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**Jul 2019 - Sep 2019** UTH CAS-Lab Summer internship

*Summer project topic: "Moment-matching methods for Statistical Timing Analysis in Matlab"*

**Jul 2022** Erasmus+ BIP in TUL Liberec, Czech Republic

*"Advanced Tools for Multidisciplinary Machine Learning and Big Data: Data Science for Future Medicine, Industry, Business, Education and Environment"*

## **TECHNICAL & PROFESSIONAL INTERESTS**

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Machine Learning/Deep Learning, Statistics, Digital Signal Processing, Speech and Language Processing, Audio processing, Image processing, Computer Vision, Optimization, Stochastic Processes, Scientific Computation, Parallel and Distributed Computing, High-Performance Computing, Cloud Computing, Algorithms and Data Structures, Operating Systems, System Service Security, Web Development, Databases, IoT Technology, Theoretical Computer Science

## **OTHER INTERESTS & HOBBIES**

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Music (Guitar, Bass Guitar), Sewing, Crafts, Film, Literature & Poetry