

elena aloupogianni

data science engineer

contact

Eleni (Elena)
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publications

foxelas.github.io/
publications

interests

biomedical optics
image processing
high-dimensional data
pattern recognition
artificial intelligence
statistical analysis
stock pricing

programming

MATLAB, Python, C#
R, MS VBA, Kotlin
MS SQL, PostgreSQL
CSS, HTML, Bash

tools

L^AT_EX, Github, Jekyll
PyTorch, Tensorflow
Anvil, Visual Studio
Android Studio
Google Rest API

OS

Windows
Ubuntu Linux

societies

Engineering in
Medicine and Biology
Society (IEEE EMBS)
(ex-member)
Japanese Society of
Medical Imaging
Technology (JAMIT)
(ex-member)

education

2019-2022
3y

Ph.D. (GPA 3.90/4.50)

Tokyo Institute of Science and Technology, Japan

in Human-Centered Science and Biomedical Engineering,
Department of Information and Communications Engineering
Thesis: "Hyperspectral Imaging and Analysis for the Diagnosis of Pigmented
Skin Lesions during Gross Pathology"
Supervisor: Associate Professor Takashi Obi ([Obi Laboratory](#))
Funding: Japanese Government ([Monbukagakusho: MEXT](#)) Scholarship

2017-2019
2y

M.Eng. (GPA 4.16/4.50)

Tokyo Institute of Science and Technology, Japan

in Information and Communications Engineering
Thesis: "Skin Cancer Detection Using Multi-Spectral Macropathology Images"
Supervisor: Associate Professor Takashi Obi (Ohyama-Obi Laboratory)
Funding: Japanese Government ([Monbukagakusho: MEXT](#)) Scholarship

2011-2016
5y

Joint B.Sc.&M.Sc. (GPA 8.26/10)

National Technical University of Athens, Greece

in Electrical and Computer Engineering
Specialization: Signals, Computer Systems, Electronics, Bioengineering
Thesis: "Application of the Curvelet Transform on Ultrasound Images of the
Carotid Artery"
Supervisor: Professor Konstantina Nikita

experience

2023-Now

Engineering Consultant

Iris Automation Ltd, UK

Providing expert consultation in data science and computer vision, with a focus on the integration of computer vision and LLMs into safety-critical systems for heavy industry and industrial manufacturing.

2023-Now

Data Science and Computer Vision Lead

Interactive Coventry, UK

Leading AI-driven, user-centric projects within immersive environments. Focus areas include computer vision, ML, and NLP across domains such as urban traffic systems and asset pricing. Active contributor to EU-UK bilateral research initiatives. Designed and delivered advanced AI and LLM training for technical teams.

2017-2022

Systems Engineer

Technology Dept., Yamazaki Johosekei Areccia (ex. IDAY), Japan

Data analysis, modelling and support of financial product pricing and risk management. Worked in a variety of projects; mainly on Pricing Engines, Multifactor Models, Hull-White and Monte-Carlo Simulations. Regression testing and verification tool production. UI development and rapid prototyping for in-house web applications.

2020-2021

Teaching Assistant

Faculty of Health, Saitama Medical University, Japan

Guidance and assistance in Undergraduate Engineering Workshops (1. Applied Engineering Experiments, 2. Electrical and Electronic Experiments) for the Faculty of Health and Medical Care.

2019-2020

Teaching Assistant

GSEP, Tokyo Institute of Technology, Japan

Topic introduction, group-work management and progress evaluation.

- 2018 **Research Assistant** Obi laboratory, Tokyo Institute of Technology, Japan
Inter-university research project in collaboration with Saitama Medical University, Chiba University and Olympus Corporation.
- 2021-2022 **Student Ambassador (Contract)** Admissions Section, Tokyo Institute of Technology
Promotional work and [blog](#) authorship for the admissions division.
- 2017-2022 **Student Leader (Volunteer)** Obi Laboratory, Tokyo Institute of Technology
Student leader and manager. Handled event scheduling, communication with students, reporting of student progress and other general affairs in the laboratory.

publications

- 2024 **Peer-Reviewed Journal Paper** IEEE
“An AI-based Digital Twin Framework for Intelligent Traffic Management in Singapore”, International Conference on Electrical, Computer and Energy Technologies (ICECET), 25-27 July, Sydney, Australia. (OPEN ACCESS)
- 2022 **Peer-Reviewed Conference Paper** SPIE
“Hyperspectral Imaging for Tumor Segmentation on Pigmented Skin Lesions”, Skin Research and Technology, 27(10), 106007, 2022. (OPEN ACCESS)
- Peer-Reviewed Journal Paper** SPIE
“Hyperspectral and multispectral image processing for gross-level tumor detection in skin lesions: a systematic review”, JBO, 27(6), 060901, 2022. (OPEN ACCESS)
- Full list <https://orcid.org/0000-0002-2183-312X>

skills

Soft

problem-solving, creativity, adaptability in multicultural environments, project management, time management, leadership, teamwork, positive attitude, friendly personality, consistent performance

Comm.

public speaking, translation, patient listener

languages

Greek: ● ● ● ● ● Native
English: ● ● ● ● ○ Near-Native

Japanese: ● ● ● ● ○ JLPT N2
German: ● ● ● ○ ○ Goethe-Zertifikat B2

stats

foxelas' GitHub Stats

☆ Total Stars:	1
🕒 Total Commits (2023):	433
🔗 Total PRs:	40
🔔 Total Issues:	0

