

# ELENI ALOUPOGIANNI

<https://orcid.org/0000-0002-2183-312X>

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## Also known as

Elena Aloupogianni

## Websites & Social Links

Personal Page (<https://foxelas.github.io>)

CV & Other Info (<https://foxelas.github.io/cv>)

TokyoTech Research Repository ([https://t2r2.star.titech.ac.jp/cgi-bin/researcherpublicationlist.cgi?](https://t2r2.star.titech.ac.jp/cgi-bin/researcherpublicationlist.cgi?lv=en&q_researcher_content_number=076c1c5aed94182479ab9a757343f7ee&alldisp=1&tab_yf=2021)

[lv=en&q\\_researcher\\_content\\_number=076c1c5aed94182479ab9a757343f7ee&alldisp=1&tab\\_yf=2021](https://t2r2.star.titech.ac.jp/cgi-bin/researcherpublicationlist.cgi?lv=en&q_researcher_content_number=076c1c5aed94182479ab9a757343f7ee&alldisp=1&tab_yf=2021))

Profile in TokyoTech (<https://discover.titech.ac.jp/ambassador/elena-eleni-aloupogianni/>)

## Country

Greece, Japan

## Keywords

medical image processing, multispectral images, texture analysis, macropathology, curvelet transform, carotid ultrasound, skin cancer detection, hyperspectral images

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## Biography

Eleni (Elena) Aloupogianni received her B.S. & M.S. diploma in Electrical and Computer Engineering from the National Technical University of Athens, Greece, in 2016. She earned a M.E. in Information and Communications Engineering in 2019 and a Ph.D. in Human-Centered Science and Biomedical Engineering in 2022, from Tokyo Institute of Technology, Japan. Her research interests include image processing, computer-assisted diagnosis, hyperspectral imaging and statistical analysis.

## Employment (3)

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### **Tokyo Institute of Technology: Meguro, JP**

2021-04 to 2022-09 | Student Ambassador (Admissions Section)

Employment

**Source:**ELENI ALOUPOGIANNI

### **Saitama Medical University: Morohongō, JP**

2020-04 to 2021-09 | Teaching Assistant in Undergraduate Engineering Workshops - 1. Applied engineering experiments, 2. Electrical and electronic experiments (Faculty of Health and Medical Care)

Employment

**Source:**ELENI ALOUPOGIANNI

### **Tokyo Institute of Technology, Obi Laboratory: Tokyo, JP**

2018-02-01 to 2018-03-31 | Research Assistant - Image Analysis in Skin Pathology (Department of Information & Communications Engineering)

Employment

**Source:**ELENI ALOUPOGIANNI

## Education and qualifications (3)

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### **Tokyo Institute of Technology: Tokyo, Tōkyō, JP**

2019-09 to 2022-09 | Doctor of Philosophy, Human Centered Sciences and Biomedical Engineering Course (Department of Information and Communication Engineering )

Education

**Source:**ELENI ALOUPOGIANNI

### **Tokyo Institute of Technology: Tokyo, Tōkyō, JP**

2017-09 to 2019-09 | Master of Engineering, Information and Communications Engineering Course (Department of Information and Communications Engineering)

Education

**Source:**ELENI ALOUPOGIANNI

### **Ethniko Metsobio Polytechnio: Athens, GR**

2011 to 2016 | Joint BSc and MSc (School of Electrical and Computer Engineering)

Education

**Source:**ELENI ALOUPOGIANNI

### **Invited positions and distinctions (1)**

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#### **The Japanese Society of Medical Imaging Technology**

**(JAMIT): Tokyo, JP**

2022-08 | Honorable mention for Presentation in the 41st JAM

IT Annual Meeting (JAMIT 2022)

Distinction

**Source:**ELENI ALOUPOGIANNI

### **Membership and service (3)**

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#### **IEEE Engineering in Medicine and Biology Society:**

**Piscataway, NJ, US**

2021-11 to 2022-11 | Student Member

Membership

**Source:**ELENI ALOUPOGIANNI

#### **Japanese Society of Medical Imaging Technology**

**(JAMIT): Tokyo, JP**

2019-05 to 2022-11 | Student Member

Membership

**Source:**ELENI ALOUPOGIANNI

#### **Obi Laboratory: Yokohama, JP**

2018 to 2022 | Student Leader

Service

**Source:**ELENI ALOUPOGIANNI

### **Funding (3)**

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#### **Monbukagakusho:MEXT Fully-funded Doctoral Course**

Ministry of Education, Culture, Sports, Science and

Technology (Tokyo)

2019-09 to 2022-09|Salary award

**Source:**ELENI ALOUPOGIANNI

#### **Monbukagakusho:MEXT Fully-funded Masters Course**

Ministry of Education, Culture, Sports, Science and

Technology (Tokyo)

2017-04 to 2019-09|Salary award

**Source:**ELENI ALOUPOGIANNI

## **Mprosta Scholarship**

Eurobank (Athens)

2011 to 2011|Award

URL: <https://www.eurobank.gr/el/omilos/esg-environment-society-governance/koinonia/programma-mprosta-gia-tin-paideia>A (<https://www.eurobank.gr/el/omilos/esg-environment-society-governance/koinonia/programma-mprosta-gia-tin-paideia>A)

**Source:**ELENI ALOUPOGIANNI

## **Works (17 of 17)**

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### **A Digital Twin Architecture for Intelligent Traffic Management Based on Artificial Intelligence**

2024-06-12 | book-chapter

DOI: 10.3233/AISE240026

**Source:**Crossref

### **Network Slicing for Beyond 5G Networks using Machine Learning**

*The 24th IEEE/ACM international Symposium on Cluster, Cloud and Internet Computing (CCGRID), Philadelphia, United States, May 6-9, 2024*

2024-05 | conference-paper

DOI: 10.1109/CCGridW63211.2024.00031

**Source:**ELENI ALOUPOGIANNI

### **AI-Driven Optimization of Small Cell Deployment for Beyond 5G Networks**

*Procedia Computer Science*

2024-04 | journal-article

DOI: 10.1016/j.procs.2024.06.111

**Source:**ELENI ALOUPOGIANNI

### **Security-enhanced firmware management scheme for smart home IoT devices using distributed ledger technologies**

*International Journal of Information Security*

2024-03-07 | journal-article

DOI: 10.21203/rs.3.rs-3077169/v1

DOI: 10.1007/s10207-024-00827-x

**Source:**ELENI ALOUPOGIANNI

**An AI-based Digital Twin Framework for Intelligent Traffic Management in Singapore**

*4th International Conference on Electrical, Computer and Energy Technologies (ICECET 2024), 25-27 July, Sydney, Australia*

2024 | conference-paper

DOI: 10.1109/ICECET61485.2024.10698642

Source:ELENI ALOUPOGIANNI

**Effects of dimension reduction of hyperspectral images in skin gross pathology**

*Skin Research and Technology*

2023-02-01 | journal-article

DOI: 10.1111/srt.13270

Part of ISSN: 0909-752X

Part of ISSN: 1600-0846

Source:ELENI ALOUPOGIANNI

**Hyperspectral imaging for tumor segmentation on pigmented skin lesions**

*Journal of Biomedical Optics*

2022-10-31 | journal-article

DOI: 10.1117/1.jbo.27.10.106007

Part of ISSN: 1083-3668

Source:ELENI ALOUPOGIANNI

**Exploratory Data Analysis on Hyper-spectral Images of Pigmented Skin Lesions**

*The 41st JAMIT Annual Meeting, Nagoya, Japan*

2022-08-29 | conference-paper

Source:ELENI ALOUPOGIANNI

**Hyperspectral Imaging and Analysis for the Diagnosis of Pigmented Skin Lesions during Gross Pathology**

2022-07 | dissertation-thesis

Source:ELENI ALOUPOGIANNI

**Hyperspectral and multispectral image processing for gross-level tumor detection in skin lesions: a systematic review**

*Journal of Biomedical Optics*

2022-06-08 | journal-article

DOI: 10.1117/1.jbo.27.6.060901

Part of ISSN: 1083-3668

Source:ELENI ALOUPOGIANNI

**Design of a Hyper-Spectral Imaging System for Gross Pathology of Pigmented Skin Lesions**

*2021 43rd Annual International Conference of the IEEE*

*Engineering in Medicine & Biology Society (EMBC), Virtual, Mexico*

2021-11-01 | conference-paper

DOI: 10.1109/embc46164.2021.9629512

Source:ELENI ALOUPOGIANNI

**Effect of formalin fixing on chromophore saliency maps derived from multi-spectral macropathology skin images**

*Medical Imaging 2021: Digital Pathology, Virtual, US*

2021-02 | conference-paper

DOI: 10.1117/12.2581926

Source:ELENI ALOUPOGIANNI

**Binary Malignancy Classification of Skin Tissue Using Reflectance and Texture Features from Macropathology Multi-Spectral Images (Special Issue on Journal Track Papers in IEVC2019)**

*IIEEJ Transactions on Image Electronics and Visual Computing*

2019-12 | journal-article

DOI: 10.11371/tievciieej.7.2\_58

Source:ELENI ALOUPOGIANNI

**Binary Malignancy Classification of Skin Tissue using Reflectance and Texture Features from Macropathology Multi-Spectral Images**

*The 6th IIEEJ International Conference on Image Electronics and Visual Computing (IEVC 2019), Bali, Indonesia*

2019-08-21 | conference-paper

Source:ELENI ALOUPOGIANNI

**Skin Cancer Detection Using Multi-Spectral  
Macropathology Images**

2019-08 | dissertation-thesis

Source:ELENI ALOUPOGIANNI

**Binary Malignancy Classification of Skin Tissue using  
Reconstructed Reflectance from Macropathology Multi-  
Spectral Images**

*The 38th JAMIT Annual Meeting, Nara, Japan*

2019-07-24 | conference-paper

Source:ELENI ALOUPOGIANNI

**Application of the Curvelet Transform on Ultrasound  
Images of the Carotid Artery; Curvelet-based Feature  
Extraction and their Physical Meaning**

*National Technical University of Athens*

2016-11 | dissertation-thesis

Source:ELENI ALOUPOGIANNI

**Peer review (3)**

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- review activity for **Journal of biophotonics** (2)
- review activity for **Scientific data**. (1)
- review activity for **Transactions on emerging telecommunications technologies**. (1)

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