



PERSONAL DETAILS

Name: Luca Zelioli
Date of birth: 20.07.1982
Place of birth: Oggiono (LC), Italy
Nationality: Italian
Home municipality: Eura, Finland
Driving license: B

DEGREES

26.9.2024 – University of Turku, Turku, Finland

Doctor of Philosophy in the Field of Natural Sciences

- Doctoral Programme in Technology (DPT). The degree was completed in Computer Science.
- Doctoral dissertation: "Leveraging machine learning for maritime object detection and peatland classification: harnessing the power of machine learning for precise maritime object detection and peatland classification"

29.4.2020 - Åbo Akademi University, Turku, Finland

Master of Science (Technology)

- Master's Degree Programme in Information Technology with the major subject Computer Engineering
- Title of thesis: "Environmental damage assessment based on satellite imagery using machine learning", grade 5
- Graduated with an overall grade average of 4.14

31.1.2018 - Turku University of Applied Sciences, Turku, Finland

Insinööri (AMK), Bachelor of Engineering

- Degree Programme in Information Technology
- Specialization: Embedded Software
- Title of thesis: "Automated Inventory Application", grade 4
- Graduated with 356 credits, overall grade average of 4.09

CURRENT EMPLOYMENT

01.10.2024 – current

Senior Researcher

Department of Computing, University of Turku, Turku, Finland

- Main research interests include Sensor Fusion, Computer Vision, Artificial Intelligence and Software Engineering.

01.07.2018 – current

Software Developer, freelancer

Revontuli Coding (own company), Eura, Finland

- Small projects in the field of web and software development

PREVIOUS WORK EXPERIENCE

01.04.2021 – 30.09.2024

Project Researcher / Doctoral Researcher / Doctoral Candidate

Department of Computing, University of Turku, Turku, Finland

- Researcher's tasks and other duties as well as doctoral candidate's research work related to their studies

01.06.2019 – 03.02.2021

Researcher

Åbo Akademi University, Turku, Finland

- Theory and practice in the field of computer vision

11/2016 – 06/2018 (several temporary contracts during studies)

Web Developer / Software Engineer / IT Support

Lappi-Hunaja / Polar-Honey Finland, Rauma, Finland

- Programming of website (especially backend), software development
- SOHO network, remote assistance (RDP), IT support, video surveillance system

RESEARCH OUTPUT

- A1 = 01/2025, Enhancing hurdles athletes' performance analysis: A comparative study of cnn-based pose estimation frameworks, <https://doi.org/10.1007/s11042-024-20587-z>
- A4 = 12/2024, SEDA: Similarity-Enhanced Data Augmentation for Imbalanced Learning, https://doi.org/10.1007/978-3-031-78395-1_3
- A2 = 11/2024, Addressing imbalanced data for machine learning based mineral prospectivity mapping, <https://doi.org/10.1016/j.oregeorev.2024.106270>
- G5 = 09/2024, Leveraging machine learning for maritime object detection and peatland classification: harnessing the power of machine learning for precise maritime object detection and peatland classification, <https://urn.fi/URN:NBN:fi-fe2024080663810>
- A4 = 07/2024, Enhancing Peatland Classification using Sentinel-1 and Sentinel-2 Fusion with Encoder-Decoder Architecture, <https://ieeexplore.ieee.org/document/10706276>
- A4 = 11/2023, CNN-based Boreal Peatland Fertility Classification from Sentinel-1 and Sentinel-2 Imagery, <https://ieeexplore.ieee.org/document/10410695>
- A4 = 11/2023, Enhancing Minerals Prospects Mapping with Machine Learning: Addressing Imbalanced Geophysical Datasets and Data Visualization Approaches, <https://ieeexplore.ieee.org/document/10328164>
- A4 = 11/2023, Real-Time Military Tank Detection Using YOLOv5 Implemented on Raspberry Pi, <https://ieeexplore.ieee.org/document/10303260>
- A4 = 08/2023, Multistream Convolutional Neural Network Fusion for Pixel-wise Classification of Peatland, <https://ieeexplore.ieee.org/document/10224183>
- A4 = 10/2021, Transfer Learning for Maritime Vessel Detection using Deep Neural Networks, <https://ieeexplore.ieee.org/document/9565077>
- A1 = 02/2021, ABOships - An Inshore and Offshore Maritime Vessel Detection Dataset with Precise Annotations, <https://doi.org/10.3390/rs13050988>

Curriculum Vitae - 10/02/2025

- A4 = 06/2020, Comparing CNN-Based Object Detectors on Two Novel Maritime Datasets, <https://doi.org/10.1109/ICMEW46912.2020.9106019>
- G2 = 04/2020, Environmental damage assessment based on satellite imagery using machine learning, Åbo Akademi University, <https://urn.fi/URN:NBN:fi-fe202003259258>
- G1 = 01/2018, Automated inventory application, Turun ammattikorkeakoulu, <https://urn.fi/URN:NBN:fi:amk-201801301820>

LANGUAGE SKILLS

Italian – native language
English – C2
French – B1
Finnish – A2

OTHER EXPERTISE

- Excellent knowledge of Machine learning, Computer vision and Data analysis
- Excellent knowledge of C, C++, CUDA, .NET, Python and Java
- Good knowledge of JavaScript, React, jQuery, PHP, Node.js, html, and databases
- Knowledge of DevOps and Container
- General knowledge of routing and switching (Cisco)
- Good knowledge of mobile development with Xamarin