Luca Barsellotti

PhD Student at AImageLab (University of Modena and Reggio Emilia)

Address: Via di Villa Fontana 261, Lucca (LU), 55100, Italy - Date of birth: December 25^{th} 1997 - Skype: lucabar97

(+39) 3396081099 | luca.barsellotti@gmail.com | lucabarsellotti.github.io | lucabarsellotti | luca-barsellotti

Education

PhD Student

Modena, Italy

AImageLab - University of Modena and Reggio Emilia — *November 2022-October 2025*

- The main research activities focus on Open-Vocabulary and Open-World Semantic Segmentation and Object Detection.
- Under the supervision of Prof. Rita Cucchiara
- Founded by Leonardo

MSc in Artificial Intelligence and Data Engineering

Pisa, Italy

Università di Pisa — *October 2019 - February 2022*

- The courses and the exams were all provided in English.
- Final Mark: 110/110 cum laude
- Average Weighted Mark: 29.47/30
- Thesis Title: "Design and implementation of a system for passive data acquisition and automatic classification of financial instruments based on Machine Learning algorithms" (in cooperation with ION Trading)

BSc in Computer Science Engineering

Pisa, Italy

Università di Pisa — *September 2016 - October 2019*

- Final Mark: 110/110
- Average Weighted Mark: 26.92/30
- Thesis Title: "Reconstruction of a spectrogram using Context-Encoder architectures based on Convolutional Neural Networks"

Experience

Research Fellow

Pisa, Italy

CNIT and Scuola Superiore Sant'Anna — *January 2022 - Present*

- Investigating on solutions for fast AI inference on resource-constrained SmartNICs.
- Offloading of AI computational workloads on SmartNICs.
- Development of AI-based services for networking infrastructures.

Machine Learning Intern

Pisa, Italy

ION Trading — *September 2021 - December 2021*

- Development of a system for automatic data retrieval from logs and for storing into a document-based database.
- Analysis of the performance of Machine Learning models and techniques for the classification of financial instruments.
- Implementation of a Machine Learning pipeline for the classification of securities in which the model is dynamically updated.

Publications

Under Review

Under Review

L. Barsellotti, R. Amoroso, L. Baraldi, R. Cucchiara — *August 2023*

FOSSIL: Free Open-Vocabulary Semantic Segmentation through Synthetic References Retrieval

ICIAP 2023

Udine, Italy

L. Barsellotti, R. Amoroso, L. Baraldi, R. Cucchiara — *September 2023*

Enhancing Open-Vocabulary Semantic Segmentation through Prototype Retrieval

HPSR 2023

Albuquerque, New Mexico, USA

L. Barsellotti, L. De Marinis, F. Cugini, F. Paolucci — *June 2023*

FTG-Net: Hierarchical Flow-To-Traffic Graph Neural Network for DDoS Attack Detection

ICCCN 2022

Virtual Conference

L. Barsellotti, F. Alhamed, J. J. Vegas Olmos, F. Paolucci, P. Castoldi, F. Cugini — *July 2022*

Introducing Data Processing Units (DPU) at the Edge

Journals and Conference Reviewing

GLOBECOM

2022 IEEE Global Communications Conference: Next-Generation Networking and Internet

TOMM

ACM Transactions on Multimedia Computing, Communications, and Applications

ICIAP

2023 International Conference on Image Analysis and Processing

Conferences and Events

NVIDIA DOCA HACKATHON *Virtual*

NVIDIA DOCA Virtual European EMEA Hackathon *March 2022*

VISMAC *Padova, Italy*

International Summer School on Machine Vision *September 2023*

Skills

Computer Science

Programming, Database and Artificial Intelligence

- Programming: C++, Python, Java
- AI Libraries: PyTorch, Faiss, Tensorflow, Keras, OpenCV, MLPack
- Database: SQL, MongoDB

Language & Writing

Fluent in English, Italian

- English (Full professional proficiency)
- Italian (Native proficiency)
- German (Beginner)

Independent Education

Course in ”Graph Neural Network” *Udemy*

Younes Sadat-Nejad *August 2022*

Specialization in ”First Principles of Computer Vision” *Coursera*

Columbia University *May 2022*

- Courses: ”Camera and Imagining”, ”Features and Boundaries”, ”3D Reconstruction - Single Viewpoint”, ”3D Reconstruction - Multiple Viewpoints”, ”Visual Perception”
- Taught by Professor Shree Nayar

Course in ”Device-based Models with TensorFlow Lite” *Coursera*

DeepLearning.AI *March 2022*

- Taught by Laurence Moroney