Eugenio Lomurno

✉ eugenio.lomurno@polimi.it

About me

I was born on the 14th of January, 1995, in Matera, Italy. I lived and studied in my hometown, developing a keen interest in science and philosophy, until the end of high school, in 2013. In the same year, I moved to Milan, and I enrolled in the Computer Science and Engineering course at Politecnico di Milano, where I obtained my BSc and my MSc degrees. In these years, I have nourished my technical knowledge by focusing on the Artificial Intelligence world while preserving a scientific and ethical approach to the discipline. Machine Learning and Deep Learning immediately caught my attention by pushing me to deepen their mechanisms and applications outside the academic sphere. Passion and curiosity are the heart of my study on autonomous learning, aimed at creating models and applications that can positively impact society and help face future challenges. During the last period of the MSc, I got interested in 3D reconstruction and Deep Learning synergies. In 2020 I started the Human-Centered Artificial Intelligence Ph.D. at Politecnico di Milano. My research fields and interests span from XAI to Generative Deep Learning, from Differential Privacy and Federated Learning to Auto Deep Learning.

Education

PhD in Information Technology
Milan, Italy

POLITECNICO DI MILANO
November 2020 - In progress

• Specialization: Human-Centred Artificial Intelligence

MSc in Computer Science and Engineering
Milan, Italy

POLITECNICO DI MILANO
March 2017 - April 2020

• Final Grade: 101/110
• Specialization: Deep Learning, Machine Learning, Artificial Intelligence, Data Mining

BSc in Information Engineering
Milan, Italy

POLITECNICO DI MILANO
March 2017 - April 2020

• Final Grade: 91/110
• Specialization: Software Engineering, Calculus, Statistics

High School Diploma
Matera, Italy

LICEO SCIENTIFICO D. ALIGHIERI
September 2008 - July 2013

• Final Grade: 85/100

MSc Thesis Project

SR-MVS: Multi-View Stereo enhancement through Super-Resolution

• Language: English
• Supervisor: Matteo Matteucci
• Co-Supervisor: Andrea Romanoni
• Summary: Nowadays, 3D reconstruction algorithms have reached incredible accuracy levels, especially when the images of the environment to be reconstructed have high resolution. However, there are cases in which these images' quality is not high enough, as in the case of old photographs, or cases in which the hardware used to immortalize them is a limitation. We examine whether the increase in the resolution of these input images results in an improvement of the reconstructed model. In particular, we study whether and how much the depth map estimation, being the most relevant step of the most successful Multi-View Stereo pipelines, can benefit from Super-Resolution based on Deep Learning. Although these latter techniques can generate artifacts, we demonstrate how their application before restoring the depth maps leads to the realization of a better 3D model both in PatchMatch and Deep Learning Multi-View Stereo algorithms.

Competitions

ACE Datathon 2019 – Odometer Mileage   *Zurich, Switzerland*

DETECT MILEAGE VALUE FROM ODOMETER IMAGES - ETH ZURICH, BOSH   *November 2019*

- Deep Learning, Image Analysis, Multiclass Classification
- **Gold medal:** 1/11 position on Kaggle leaderboard

Google Analytics Customer Revenue Prediction   *Milan, Italy*

PREDICT HOW MUCH GSTORE CUSTOMERS WILL SPEND - RSTUDIO   *November 2018*

- Machine Learning, Data Mining, Price Forecasting
- **Silver medal:** 137/3611 position on Kaggle leaderboard

Polimi-Vodafone Challenge   *Milan, Italy*

FIND THE RIGHT IOT PRODUCT FOR THE CUSTOMERS - POLITECNICO DI MILANO, VODAFONE   *May 2018*

- Machine Learning, Data Mining, Multiclass Classification
- **Gold medal:** 1/18 position on Kaggle leaderboard

Publications

Age-group discrimination using free handwriting features   *Milan, Italy*

JOURNAL OF AMBIENT INTELLIGENCE AND HUMANIZED COMPUTING (JAIHC)   *September 2021*

- Authors: D. Di Febbo, E. Lomurno, M. Matteucci, F. Lunardini, S. Ferrante
- Language: English
- Status: Under review

Improving Multi-View Stereo via Super-Resolution   *Milan, Italy*

ARXIV PREPRINT ARXIV:2107.13261, 2021   *September 2021*

- Authors: E. Lomurno, A. Romanoni, M. Matteucci
- Language: English
- Status: Published

Pareto-Optimal Progressive Neural Architecture Search   *Lille, France*

GENETIC AND EVOLUTIONARY COMPUTATION CONFERENCE 2021 (GECCO2021)   *July 2021*

- Authors: E. Lomurno, S. Samele, M. Matteucci, D. Ardagna
- Language: English
- Status: Publisched

Technical Skills

Programming Languages	Python, C, C++, Java, SQL
Deep Learning	TensorFlow2, TensorFlow Probability, TensorFlow Privacy, Keras, Pytorch, FastAI
Machine Learning	Scickit-Learn, XGBoost, LightGBM, Catboost
XAI	LIME, SHAP

Soft Skills

Organisational Skills	Team Carrier, Motivator, Conflict Solver, Peacemaker
Social Skills	Emotional Intelligence, Strong Empathy, Transparency, Patient and Attentive Listener

Languages

Italian	Mother tongue
English	Professional level

Autorizzo al trattamento dati ai sensi del GDPR 2016/679 del 27 aprile 2016 (Regolamento Europeo relativo alla protezione delle persone fisiche per quanto riguarda il trattamento dei dati personali).

Autorizzo la pubblicazione sul sito istituzione del Politecnico di Milano (sez. Amministrazione Trasparente) in ottemperanza al D. Lgs n. 33 del 14 marzo 2013 (e s.m.i.).