

FEDERICO MILANI

PHD in COMPUTER SCIENCE

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SUMMARY

I obtained a Ph.D. in Computer Science at Politecnico di Milano. During my Ph.D., I acquired a **solid experience in image processing, data analysis, Artificial Intelligence (AI), and Computer Vision (CV)**. I have **4+ years of experience in Python** scripting and software development, **excellent knowledge of data science libraries, Git, and Docker**, and **2+ years of Java development and relational databases**. I applied my expertise to cultural heritage and remote sensing data. **I am Italian, and I am willing to relocate**. I am looking for a **challenging work environment in the Machine Learning or Deep Learning field** and an opportunity to make the most of my skills. I love playing tennis, climbing, and skiing in my free time.

SKILLS

Python | PyTorch | Tensorflow | Docker | Pandas | Numpy | Unix | MacOS | Git | SQL | Java | Swift | OpenCV | Scikit-Learn

EDUCATION

PhD in Computer Science and Engineering | Politecnico di Milano, DEIB, Italy November 2019 – March 2023

Thesis title: "Analysis of Cultural Heritage Data for Complex Iconography Studies"

Research focus: Artificial Intelligence, Computer Vision, Image Classification, Object Detection, Data Analysis

MSc in Computer Science and Engineering | Politecnico di Milano, DEIB, Italy September 2016 – December 2018

Thesis title: "Learning to Find Mountains"

Research focus: Artificial Intelligence, Computer Vision, Terrain 3D Models

BSc in Computer Science and Engineering | Politecnico di Milano, DEIB, Italy September 2013 – September 2016

EXPERIENCE

RESEARCH FELLOW Politecnico di Milano | Milan, Italy | February 2019 – January 2023

- Led the ArtDL project, obtained state-of-the-art results on iconography identification through Deep Learning and Computer Vision techniques with potential use in interactive museums applications and improvement of online collections.
- Actively took part in H2020 projects for the processing and analysis of remote sensing data, drastically reducing manual photointerpretation time and human errors in sensitive use cases (e.g., illegal landfills identification, drone search and rescue).
- Co-authored 10+ publications in international journals and conferences in the Deep Learning and Computer Vision fields.
- Co-supervised 10+ MSc students with thesis focused on Deep Learning, Computer Vision, and Machine Learning. More than 50% of the thesis led to an international publication.

TEACHING ASSISTANT Politecnico di Milano | Milan, Italy | February 2019 – January 2023

- Taught and tutored multiple BSc and MSc courses (Web Technologies, Databases 2), prepared Java projects and technical documentations, and corrected exams and assignments.

PROJECTS

ArtDL ([website](#))

Python, PyTorch, Tensorflow, Jupyter Notebook, Numpy, Pandas, Scikit-learn, OpenCV, Pillow

Created and released a public data set of 43k paintings, implemented and evaluated Deep Learning (DL) models for Christian iconography localization. Acquired expertise in data preparation and analysis, Artificial Intelligence, Computer Vision, and data science Python libraries.

ODIN ([website](#))

Python, Jupyter Notebook, Docker, Pandas, Plotly, Numpy

Contributed to the development of an innovative open-source framework assisting Machine Learning (ML) applications in the stages of data preparation, model evaluation, and black-box error diagnosis. ODIN is entirely developed following Python best practices.

ODIN WEB

Python, Flask, Vue, Docker, MongoDB, Nginx, Redis

Led the development of the web version of the ODIN framework. ODIN WEB offers an intuitive frontend, a RESTful API backend, and a NoSQL database. The environment can be easily installed through docker compose. ODIN WEB has yet to be published.

LANGUAGES

ENGLISH (ADVANCED), ITALIAN (NATIVE), GERMAN (BASIC), SPANISH (BASIC)