MATTEO BASTICO

Third-year PhD fellow of the Horizon 2020 - Marie Skłodowska-Curie Actions-COFUND European AI4TheSciences program at Mines Paris – PSL University (France).

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SKILLS

- 3D Vision and Perception
- Deep Learning
- Transformers, CNNs
- Diffusion Models
- Semantic Segmentation
- Python (PyTorch, CUDA)
- Git and GitHub
- Article Writing and Design

LANGUAGES

Italian (First language)

English (C1)

Spanish (B2 – C1)

French (B2 – C1)

Driving license and car owner.

PROFILE

My PhD focuses on researching deep learning and computer vision techniques for 3D data, particularly in the medical domain, to advance technologies for kinematics modeling. This includes working with transformer-based and convolutional deep learning models, as well as generative diffusion models.

I am dedicated to innovative R&D in deep learning, with a strong commitment to impactful scientific contributions and articles.

EDUCATION

PhD in Deep Learning and 3D Vision Methods for Knee Modeling and Surgery Planning
2022 – 2025 (Expected in November) | Mines Paris – PSL, France

MSc in ICT for Internet and Multimedia *cum Laude*
2018 – 2021 | University of Padua, Italy

MSc in Telecommunication Engineering
2019 – 2021 | Polytechnic University of Madrid (UPM), Spain

BSc in Information Engineering
2015 – 2018 | University of Padua, Italy

EXPERIENCE

Deep Learning Research Scientist
2021 – 2022 | UPM, Spain

- Involved in international European Union's Horizon 2020 Projects, such as GenoMed4All and PROCare4Life.
- Designed, implemented and published supervised deep learning models using PyTorch (Transformers, CNNs).

ICT Help Desk Agent
2018 – 2019 | Il Gazzettino, Venice, Italy

Front-End Developer
2014 – 2015 | Valore4IT, Venice, Italy

SCHOLARSHIPS

AI4TheSciences, Horizon 2020-Marie Skłodowska-Curie Actions - COFUND European Program
2022 – 2025 | PSL University, Paris, France

Double Master's Degree program
2019 – 2021 | University of Padua, Italy & UPM, Madrid, Spain

TEACHING

Image Segmentation & Vision Transformers
2024 – 2025 | Mines Paris – PSL, France

Students' internship supervision, guiding research projects
2024 | DIMA research module at Mines Paris – PSL, France

RELEVANT PUBLICATIONS

- *Rethinking Metrics and Diffusion Architecture for 3D Point Cloud Generation*. Under revision at **ICCV 2025**.
- *Coupled Laplacian Eigenmaps for Locally-Aware 3D Rigid Point Cloud Matching*. In Proceedings of **CVPR 2024.**
- *A Simple and Robust Framework for Cross-Modality Medical Image Segmentation applied to Vision Transformers*. In Proceedings of **ICCVW 2023**

For my complete bibliography please refer to my Google Scholar.