Michele **Russo**

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AI Engineer

Hello! I am Michele Russo, a Master's graduate in **AI and Robotics** from the University of Padua, Italy. I am passionate about artificial intelligence and have developed strong skills in computer engineering, specializing in deep learning. I have experience in the software engineering domain and am proficient in several programming languages, including **Java, Python, C++**, and Software platforms like **Docker**. As an AI engineer, I have gained hands-on experience in **Computer Vision**, **Natural Language processing**, **Multimodal systems**, and **Vision-language Models (VLMs)**, in **Earth Observation Models**, and **RAGs**, working with popular frameworks such as *PyTorch, Keras, and TensorFlow*. Currently, I am a researcher at **Leonardo S.p.A.**, where I apply my expertise in **computer vision** and actively deepen my knowledge in **Continual Learning**, **Multimodal systems**, and **Earth observation**. Recently, I have also been studying **Azure Cloud** to expand my skills in cloud-based AI and deployment solutions. I am naturally curious and always eager to explore new avenues in AI and robotics.

Education

2022-'24	**University of Padua (IT)**, *MSc AI and Robotics*, 110 WITH HONOURS LAUDE/110
2024	**University of Ghent (BE)**, *MSc Computer Science Engineering*, ACADEMIC SEMESTER ABROAD
2019-'22	**University of Padua (IT)**, *BsC Computer Science Engineering*, 107/110

Experience

Jan 2025 — **AI Researcher, LEONARDO, Genoa, Italy**
research contribution in the field of Continual learning, using PyTorch to develop and train the main model. Designed, developed, and tested a robust object tracking system leveraging MLOps pipelines for reproducibility, scalability, and continuous deployment, and containerized using Docker .

Oct 2023-Oct '24 — **Software Engineer, UNIVERSITY OF PADUA, Padua, Italy**
Help in the digitalization process, boosting the productivity in the archiviation of documents and name retrieving from paper documents using Python OCR systems

Publications

Journal Articles

1. Alberto Dorizza Dario Mameli, Michele Russo and Nicola Ferro (2023). "SEUPD@CLEF: Team Squid on LongEval-Retrieval". In: *Sease*, pp. 2306–2337.
2. Mor Davide Russo Michele, Denevi Giulia (2025). "Poster ClassIncremental Learning without Replay: Improving Parameter Isolation with Augmentation Techniques". In: *ICAIR*.
3. Russo, Vittorio Cardillo Alberto Dorizza Dario Mameli Michele (2024). "Image Retrieval Using ViT + Generative Pre-trained Transformer (GPT)". In: *Sease Information Retireval Journal*.

Conferences

May 2025 — **ESA-NASA Workshop: AI Foundation Models for Earth Observation**, ROME, ITALY,
Engaging in the conference on FM from satellite-derived data to enhance our knowledge in the field.
Earth Observation | Foundation Models | Physics-Aware Foundation Models | Data Processing

Apr 2025 — **Workshop FAIR** , CATANIA,ITALY,
Presentation on our work-in-progress paper on *Improving Continual Learning*.
Continual Learning | TIL | Pytorch

Competences

Programming Languages , Platforms:	Python ,Docker,C++,C, MATLAB, Java, Go, MLOps, Git
Framework and Libraries:	Pytorch, Scikit-learn, NetworkX, Tensorflow, Keras, Ros, OpenCV, Pandas, Numpy,LangChain,Ultralytics, Hugging-Face Transformers, Hugging-face Diffusion Models
Cloud Platforms:	Azure

SOME PROJECTS GITHUB.COM/MICH3LERUSSO

2024 **BUGNIST 3D SEGMENTATION AND DETECTION** Train a model that can detect and classify bugs in volumes that contain several bugs mixed with other materials

Python | Pytorch | Tensorflow | Object detection | segmentation | 3d-Image

2023 **AI4EO-AUTOICE** The objective of the AutoICE challenge is to advance the SOTA for sea ice parameter retrieval from SAR data.

Python | Pytorch | OpenCV | SAR | Semantic Segmentation | SAR polarized data

2023 **SPORT PLAYERS DETECTION AND SEGMENTATION** Detection and Segmentation of players in different sports

C++ | Python | Scikit-learn | OpenCv | Segmentation | Object Detection | Pandas | Numpy | Opencv

2023 **GRAPH-BASED ANALYSIS OF THE FUNCTIONAL CONNECTOME IN NEUROPSYCHIATRIC DISORDER** Analyze brain mutations in patients with diseases, by processing the information from the *f-MRI* series into a graph.

Python | NetworkX | Bio-Informatics | Pandas