Matteo **Balice**

3D Deep Learning / Full stack developer

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Education

Politecnico di Milano — *Milano, Italy*

MSc in Computer Science and Engineering - Artificial Intelligence & High Performance Computing — *Sept. 2023 - July 2026 (expected)*

Collaborating with ETH Zürich for a thesis in 4D reconstruction.

University of Bari Aldo Moro — *Bari, Italy*

BSc in Computer Science — *Oct. 2020 - July 2023*

- Cumulative GPA 4.0/4.0 - 110 cum laude with mention of academic excellence
- Thesis: "Embedding Model for Knowledge Graph: Triple classification and knowledge extraction"

Experience

Google — *Zürich, Switzerland*

Software Engineer, Google Ads/Commerce — *Starting in July 2026*

- Incoming Software Engineer within the Google Ads/Commerce team.

SWE/Research intern — *July 2025 - October 2025*

- Contributed to a large-scale visual localization and image retrieval paper (scaling to larger models and different input images) under the supervision of Paul-Edouard Sarlin and Eduard Trulls, accepted at **NeurIPS 2025**.

Cluster Reply — *Milan, Italy*

AI Cloud Engineer — *Jan. 2024 - May 2025*

- Drove the successful implementation of AI solutions, leading to improvements in application speed and reliability with lower operational expenses.
- Reduced the time to deploy AI solutions in the cloud by 20% through integration of DevOps pipelines, accelerating project delivery timelines.

GeoClever — *Milan, Remote*

Full Stack Developer — *Jan. 2021 - Jan. 2024*

- Developed 10+ interactive and responsive UI modules and dashboards, enhancing the user experience for over 200 client companies.
- Drastically improved application performance by implementing a Redis caching layer, reducing average API response time more than 50%.

3D Clinical Viewer — *Sassari, Remote*

Machine Learning Engineer — *Occasional*

- Automated patient data analysis pipelines with Pandas and NumPy, reducing manual workflow by hours and improving clinical efficiency.
- Implemented machine learning solutions through Google Cloud AI Platform that allowed for faster predictions compared to manual workflow.

Papers

Scaling Image Geo-Localization to Continent Level

Philipp Lindenberger, Paul-Edouard Sarlin, Jan Hosang, Matteo Balice, Marc Pollefeys, Simon Lynen, Eduard Trulls

in Advances in Neural Information Processing Systems (**NeurIPS**), **2025**

Projects

Google Summer of Code 2024 - Neural Rendering — *United States, Remote*

Machine Learning Researcher — *May. 2024 - Sept. 2024*

- Selected for a research project to enhance the 3D rendering (with ray tracing) speed and decrease memory usage using a deep learning approach.
- Reduced memory usage by up to 90% implementing GPU optimizations.

Relevant projects

Deep learning / HPC / Computer graphics

- Text2Motion, Retopology, 3D Mesh Segmentation, Medieval Village (Vulkan), LauzHack (hackaton), Anemia Detection (U-Net), Protein Diffusion (FEM)

Skills

Technical Python, C++, Deep Learning (Pytorch, TensorFlow, JAX), parallel programming (OpenMP, MPI, CUDA), web development (React, JS, ...)

Languages Italian (Native), English (Proficient)