

Zualdi Luca

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Date of birth: 25/11/2003

PROFESSIONAL SUMMARY

M.Sc. student in AI & Robotics (GPA: 29.5/30) specializing in LLM fine-tuning and Computer Vision. I build scalable, production-ready pipelines and modular architectures. Proven track record of solving complex problems from first principles, bridging advanced HPC research with award-winning practical applications.

EDUCATION

Master's degree in artificial intelligence and robotics

09/2025 – Present

Università "La Sapienza" di Roma

- Current GPA: 29.5/30

Bachelor's degree in computer engineering

09/2022 – 09/2025

Università degli Studi di Perugia

- Thesis Statement: Study and analysis of deep reinforcement learning methodologies for autonomous driving applications in urban scenarios
- Graduation Grade: 105/110 (GPA: 27.5/30)

EXPERIENCE & APPLIED PROJECTS

Sapienza Flight Team | Autonomous Flight Software Engineer | 10/2025 – Present

- Secured 1st place internationally for software design at the CSU California UASC by ensuring zero-crash reliability and minimizing drone decision latency.
- I redesigned the flight logic in Python, migrating a legacy monolithic system into a robust modular architecture, and implemented rigorous unit testing to validate mission-critical logic.

LLM Knowledge Distillation & RAG Systems | ML Engineer (HPC) | Applied Research

- Built a high-performance, domain-specific RAG system engineered for intensive workloads and production scale, achieving a +20% gain on RAGAS metrics.
- Orchestrated large-scale training on the Leonardo HPC cluster (CINECA) by managing Slurm jobs, utilizing LoRa and 4-bit quantization to distill knowledge from a 300B teacher to a 1.5B student model.

Predictive Architectures (JEPA) | Computer Vision Researcher | Applied Research

- Developed Self-Supervised Learning (SSL) pre-training pipelines based on JEPA architectures using PyTorch library.
- Enhanced predictive capabilities for Monocular Depth Estimation (MDE) tasks, achieving a +10% performance gain across all evaluation metrics compared to standard frameworks.

SKILLS

- **Languages:** Python, C++, MATLAB
- **Technologies & Frameworks:** PyTorch, Hugging Face, Git
- **Soft Skills:** Rapid adaptation, problem-solving, troubleshooting

LANGUAGES

- **Italian:** Native
- **English:** B2 Upper-Intermediate