



Leonardo Maglanoc

Robotics & AI Research Engineer



Munich, Germany
leonardo-maglanoc.com
leo.maglanoc@tum.de
LeoMaglanoc
leonardo-maglanoc

Research Interests

- Safe humanoid locomotion & manipulation
- Robot learning & foundation models
- Neuro-inspired computation for embodied AI
- 3D computer vision and SLAM for robotics

Programming

Python (PyTorch, ROS2)

Linux (Git, Docker)

C++

Web Apps (FastAPI)

Languages

German (mother tongue)

Norwegian (mother tongue)

English (C2)

French (B1)

Short Profile

Robotics & AI research engineer focused on safe humanoid systems. My mission is to make humanoid autonomy deployable at scale in human environments through formal safety guarantees — from semantic intent to torque-level execution.

Publications

- J. Thumm, J. Balletshofer, L. Maglanoc, L. Muschal, and M. Althoff, "A general safety framework for autonomous manipulation in human environments," *IEEE Transactions on Robotics*, accepted for publication, 2025. [Demo]

Work Experiences

Sep 2025 - On-going	Master Thesis Student	Foundation Robotics, Munich, Germany, full-time
	Conducting research on language-guided dexterous manipulation with foundation models	in collaboration with a Silicon Valley-based humanoid robotics startup.
Feb 2025 - Aug 2025	AI/ML Research Intern	BMW Group Research, Munich, Germany, full-time
	Developing neuro-inspired Oscillatory Neural Networks (ONNs) in collaboration with IBM. Designing Python/PyTorch simulators and evaluating them on data collected from a tactile hardware user study (10 participants) for a human-vehicle interaction demonstrator.	
Apr 2023 - May 2024	Robotics Research Assistant	Technical University Munich, Germany, part-time
	Working on formally verified safe physical human-robot interaction for the TUM CPS group. Implementing kinematics and trajectory planning algorithms and contributing to a publication accepted in IEEE Transactions on Robotics.	
Nov 2020 - Apr 2021	CS Teaching Assistant	Technical University Munich, Germany, part-time
	Teaching introductory computer science with a focus on object-oriented programming in Java and algorithmic problem-solving, and grading weekly assignments and exams.	

Education

Apr 2023 - On-going	M.Sc. Robotics, Cognition, Intelligence	Technical University Munich, Germany
	Interdisciplinary degree spanning computer science, electrical engineering, and mechanical engineering with specialization in robotics, computer vision, and machine learning.	
Feb 2024 - Aug 2024	Siemens Mentoring Programme	Siemens, Munich, Germany
	Career development programme for high-performing students. Presented the project "Smart 3D Printing with Machine Learning" at the Siemens RIE Conference.	
Sep 2019 - Mar 2023	B.Sc. Informatics	Technical University Munich, Germany
	Computer science degree with focus on cyber-physical systems and artificial intelligence. Bachelor's thesis: <i>Provably Safe Human-Robot Interaction for Manipulation using Power and Force Limiting</i> (Grade: 1.3).	

Projects

Feb 2026	Hack-Nation Global AI Hackathon	MIT & CDTM
	Built "EasyBuy," an AI e-commerce assistant. Selected for the Venture Lab programme (15–20 teams chosen from 6,000+ applicants). [Demo], [Code]	
Dec 2025	RoboTUM Hackathon	RoboTUM & Motius, Munich, Germany
	Built a full robot learning pipeline for an SO-101 platform, including teleoperation data collection, fine-tuning of diffusion models, and real-time inference for pick-and-place tasks.	
Since Nov 2025	AI Grid	National AI Research Network (Germany)
	Participating in a research-oriented AI network connecting academia and industry to advance applied artificial intelligence.	