






Leonardo Maglanoc  
Robotics & AI Research Engineer




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LeoMaglanoc



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- Research Interests
- Safe humanoid loco-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++

Java

Languages

German (mother tongue)

Norwegian (mother tongue)

English (C2)

French (B1)

Short Profile

TUM Robotics & AI Master’s student advancing multifingered manipulation at a humanoid startup. My mission is to enable safe and reliable humanoid autonomy in human environments for the benefit of humanity, and to leave the world better than I found it. I have an international background: of Asian heritage, born in Norway, and raised in Germany. Outside of work, I enjoy practicing calisthenics and jogging, reading philosophy, and writing poetry.

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

Work Experiences

Sep 2025 - On-going	Master Thesis Student	Foundation Robotics, Munich, Germany, full-time
	Master’s thesis in collaboration with humanoid robotics startup on language-guided multifingered manipulation with foundation models.	
Feb 2025 - Aug 2025	AI/ML Research Intern	BMW Group Research, Munich, Germany, full-time
	Development of neuro-inspired computing architecture called Oscillatory Neural Networks (ONNs) in collaboration with IBM. Executed a user study with a tactile hardware prototype and collected dataset from 10 participants. Designed Python/PyTorch-based ONN-simulators and applied them to collected dataset as an ONN-based Human-Vehicle Interaction AI demonstrator.	
Apr 2023 - May 2024	Robotics Research Assistant	Technical University Munich, Germany, part-time
	Making physical human-robot interaction provably safe with formal verification for the TUM CPS group. Implementation of kinematics and trajectory planning algorithms. Contributions to research paper conditionally accepted for publication in IEEE Transactions on Robotics.	
Nov 2020 - Apr 2021	CS Teaching Assistant	Technical University Munich, Germany, part-time
	Teaching responsibilities for introduction to informatics. Basics of object-oriented programming with Java and general problem-solving in computer science. Correcting weekly coding homework and exams.	

Education

Apr 2023 - On-going	M.Sc. Robotics, Cognition, Intelligence	Technical University Munich, Germany
	Interdisciplinary Master of Science program of the Departments of Informatics, Electrical Engineering, and Mechanical Engineering. Specialization in robotics, computer vision, and machine learning.	
Feb 2024 - Aug 2024	Siemens Mentoring Programme	Siemens, Munich, Germany
	Career-building by Siemens senior-executives for ambitious students. Presented the hackathon project Smart 3D Printing with Machine Learning at Siemens RIE Munich Conference and almost got 1st place.	
Sep 2019 - Mar 2023	B.Sc. Informatics	Technical University Munich, Germany
	Bachelor of Science in computer science with a minor in mathematics. Specialization in mathematical modeling, cyber-physical systems, and artificial intelligence. Bachelor Thesis at Chair for Robotics: Provably Safe Human-Robot Interaction for Manipulation using Power and Force Limiting (Grade: 1.3).	

Projects

Dec 2025	RoboTUM Hackathon	RoboTUM and Motius, Munich, Germany
	48-hour RoboTUM hackathon at Motius facilities with SO-101 robot. Full robot learning pipeline with data teleoperation collection, fine-tuning on diffusion- and VLA-models, and inference for pick and place task.	