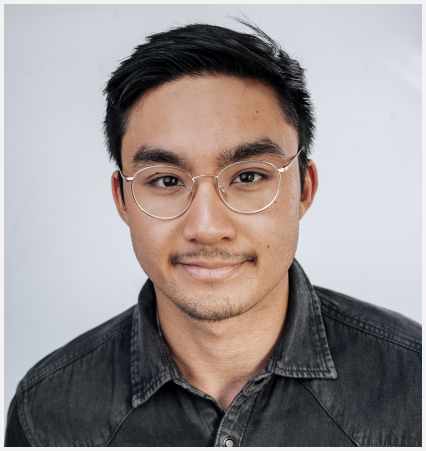

Leonardo Maglanoc

Robotics & AI Researcher

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

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 research goal is to enable safe and reliable humanoid autonomy in human environments. 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 - Ongoing — 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 - Ongoing — 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.