



Leonardo Maglanoc

Robotics & AI Re-
searcher

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Research Interests

- Humanoids, manipulators, drones
- 3D computer vision and SLAM
- Safety in robotics with formal verification
- Computational neuroscience
- Robotics foundation models

Programming

- Python (PyTorch, ROS2)
- Linux (Git, Docker)
- C++
- Java

Languages

- German (mother tongue)
- Norwegian (mother tongue)
- English (C2)
- French (B1)

Short Profile

Robotics & AI Master’s student at the Technical University of Munich (TUM) with practical experience from BMW and Siemens. Skilled in C++, Python, and PyTorch for developing AI-driven robotics and machine learning applications. 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.

Work Experiences

- Sep 2025 - Present Master Thesis Student Foundation Robotics, Munich, Germany, full-time Master’s thesis at humanoid robotics startup on Language-Guided Dexterous Grasping for Task-Oriented Manipulation with 3D 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 (pHRI) provably safe with formal verification. Implementation of kinematics and trajectory planning algorithms. Contributions to research paper in review for top robotics journal (T-RO).
- 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 - Present M.Sc. Robotics, Cognition, Intelligence Technical University Munich, Germany Interdisciplinary Master of Science program of the Departments of Informatics, Electrical Engineering, and Mechanical Engineering. Knowledge in robot control, perception, and machine learning. Personal specialization in robotics and computer vision.
- 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

- Oct 2023 - Feb 2024 Autonomous Drone Practical Technical University Munich, Germany The goal was for the user to be able to set the goal position with a haptic device, the Novint Falcon Haptic Device, and then an AR Drone 2 to autonomously reach the goal while avoiding obstacles. Video demo (Grade: 1.0).