

Anders Garberg

Engineer, Robotics & Autonomy (B.Sc.) • M.Sc. Student, Cybernetics & Robotics, NTNU

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SUMMARY

I am a robotics and autonomy engineer (B.Sc.) now doing an M.Sc. in Cybernetics and Robotics at NTNU, specialising in robots and vehicle control. I write software for autonomous vehicles in C++ and ROS 2, from sensors and communication on board to the operator panel. I am curious, like structure and deliver what I promise.

In summer 2026 I worked on KONGSBERG's Lone Wolf project, where I built the operator panel and the link between panel and vehicle (C++, Qt 6, ROS 2, ZeroMQ, GStreamer). My bachelor's thesis was a test environment for the same vehicle in NVIDIA Isaac Sim, and the summer team used it. At Marinor NTNU I now work on route planning and guidance for the surface vessel Proteus.

I work agile and test-driven, with Git, code review and CI, and I use AI coding assistants as a tool for review, testing, documentation and debugging. What I enjoy most is getting the whole system to run on real hardware.

RELEVANT TECHNOLOGIES

Languages & frameworks: C++; Qt 6; Python; MATLAB/Simulink; PLC Structured Text; TypeScript/React

Robotics, autonomy & control: ROS 2; NVIDIA Isaac Sim; URDF/USD; route planning and guidance (LOS); sensor integration; control engineering; MPC; system identification; RViz

Communication & systems: ZeroMQ; GStreamer; Tailscale/VPN; Linux and systemd; NVIDIA Jetson; Docker Compose; networking

Ways of working: Git (GitHub/GitLab); code review; CI (GitHub Actions, GitLab CI); agile and test-driven development; AI coding assistants (Claude Code, ChatGPT)

RELEVANT EXPERIENCE

KONGSBERG

Kongsberg, Norway • Jun 2026 – Aug 2026

Summer Intern, Software, Lone Wolf

- Lone Wolf is KONGSBERG's unmanned ground vehicle. We were eight students advancing sensor integration, control and remote operation; I was one of two on the ICS team (operator panel and communication).
- I had the main responsibility for the backend on both sides: a ROS 2 node in C++ on the vehicle that offers a narrow API over ZeroMQ, and the backend of the panel in C++/Qt 6. I also took part in UI design and frontend work.
- I drew up the network architecture with the team: peer-to-peer over the vehicle's own network and a Tailscale overlay with automatic discovery, and separate channels for commands and for video (GStreamer, H.264), so video never gets in the way of control. Commands expire, permissions are closed by default, and the emergency stop is enforced on the vehicle.
- To develop the panel without the vehicle I built a mock backend that mimicked the platform API. On the vehicle's NVIDIA Jetson I wrote ROS 2 launch files that start the nodes, the gateway and the video stream.
- The result: an operator with a laptop on 5G finds the vehicle with no setup, drives it, aims the turret, sees two camera feeds and can stop it. We demonstrated this to management on the physical vehicle.

Marinor NTNU

Trondheim, Norway • Sep 2026 – Present

Autonomy Engineer

- Marinor is a student team from several fields building the autonomous surface vessel Proteus, first for Njord 2027 and later RoboBoat. The team is a member of the Ocean Autonomy Cluster.
- We are five on the autonomy team, and I am responsible for transit: route planning over longer distances, which feeds the vessel's LOS guidance. ROS 2 in C++ and Python, Docker and RViz, GitHub with branch rules, review and tests.

SELECTED PROJECTS

Bachelor's thesis: Lone Wolf synthetic test environment (KONGSBERG, grade A) Jan 2026 – Jun 2026

- A synthetic test environment in NVIDIA Isaac Sim for Lone Wolf, so the autonomy software can be tested again and again without the physical robot. We were a group of four, commissioned by KONGSBERG Land Systems.
- My part was the Isaac Sim extension (Python): it loads the robot's URDF/USD, sets up camera, lidar, IMU and odometry, wires the ROS 2 graph through the simulator's own bridge, and has a GUI where the user picks a scenario.
- We validated against measurements on the physical robot (odometry response and depth data matched), and the 2026 summer team kept using the environment. Published in NVA: `hdl.handle.net/11250/5548753`

- Personal projects2024 – Present
- **Homelab:** NAS and two Raspberry Pis with Docker Compose, Tailscale, DNS, photo and file servers, e-mail and monitoring.
 - **Smart home:** Home Assistant with custom integrations and dashboard cards, and a plant moisture sensor on an ESP microcontroller (Arduino/C++).
 - **garberg.wtf and Informize:** my own website with an app portal, and a web app for information screens. TypeScript/React with Supabase, CI in GitHub Actions, deployed on Cloudflare Pages.

- Automation project: water tank level control2025
- A level controller (discrete-time PID) for a water tank in PLC Structured Text, with anti-windup and feed-forward, as group work. Closed loop simulated with the PLC against Simulink over OPC, tuned with MATLAB System Identification.

OTHER EXPERIENCE

- NTNUTrondheim, Norway
- Teaching Assistant
- Guides students through problem sets and lab work, gives academic follow-up and supports course staff in delivery.
- TD4136 Introduction to Artificial Intelligence

Aug 2026 – Present
- IE2107 Robotics & Machine Vision

Aug 2026 – Present
- AIST2102 AI for Robotics & Automation

Jan 2026 – May 2026
- ISTT1002 Statistics

Aug 2025 – Dec 2025, Aug 2026 – Present
- Trondheim KinoTrondheim, Norway • Jun 2021 – Present
- Shift Leader (part-time)
- Daily operations, staff training and customer service; technical responsibility for projectors, servers and sound.
- Norwegian Armed ForcesØrland, Norway • Aug 2022 – Jan 2024
- Communications Operator — Ground Based Air Defense
- Communications systems in a high-readiness NATO Response Force unit; secure communication between GBAD systems.

EDUCATION

- NTNUTrondheim, Norway
- M.Sc. in Cybernetics and Robotics
- Aug 2026 – Jun 2028
- Specialization in Robotics and Vehicle Control.
- B.Sc. in Automation and Intelligent Systems
- Aug 2023 – Jun 2026
- Three-year degree in control engineering, robotics and autonomy. Grade average 4.5/5 (A); thesis grade A.

LEADERSHIP & VOLUNTEERING

- Elektra Student AssociationTrondheim, Norway
- Auditor
- Aug 2026 – Present
- Financial Manager / Treasurer
- Oct 2024 – Nov 2025
- Owned budgeting, accounting and financial planning for an association with several hundred members.
- Event Committee Member, incl. Financial Manager
- Aug 2023 – Jun 2026
- StormrevyenTrondheim, Norway • Jun 2021 – May 2022
- Manager and Treasurer

ADDITIONAL

Languages: Norwegian (native), English (fluent) | **Citizenship:** Norwegian | **Driver's license:** Category B
Security clearance: Held during service with the Norwegian Armed Forces (2022–2024)