Jay Janaskar

Robot Learning & Visual Computing

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Education

Master's degree, Computer Science – NTNU Trondheim Aug 2025 – Jun 2027 (expected)
Specialisation: Visual Computing.

- Master's thesis with SINTEF Ocean, Aug 2026 – Jun 2027 (in progress): "Touch to Map: Tactile SLAM for 3D Object Reconstruction". Combines GelSight tactile sensors with RGB-D point clouds, using active touch to cut the noise in the reconstructed models.

Master's exchange programme, Computer Science – ETH Zurich Feb 2026 – Aug 2026
Exchange semester at D-INFK. Grade average 4.93/6. Courses: 3D Vision, Digital Humans, Shape Modeling and Geometry Processing.

Bachelor's degree, Computer Engineering – OsloMet University Aug 2022 – Jun 2025

- Bachelor's thesis with SINTEF Digital: built API endpoints with FastAPI and MongoDB to connect Koala UI, our team's interactive frontend, to Crocodile, a Python library for entity linking.

Exchange programme – Nelson Mandela University, South Africa Jul 2024 – Nov 2024
Courses: Emerging Technologies, Network Optimisation and Security.

Vocational Certificate, ICT – Gand VGS, Sandnes Aug 2018 – Jun 2020
Foundations in Linux, the command line and Python.

Projects

DribbleAMP: Adversarial Motion Priors for Football Dribbling Spring 2026
Digital Humans, ETH Zurich – team of two

- Trained humanoid dribbling policies with Adversarial Motion Priors, using a learned discriminator instead of hand-written style rewards. Built the Unitree G1 environment and the Isaac Lab backend, and ran PPO on MimicKit with 1024 parallel environments in the Newton GPU simulator.
- Measured what the style reward buys and costs: AMP produced a natural, upright gait, but at an equal training budget the no-AMP baseline halved speed and angle error. Code at github.com/ErykHalicki/DribbleAMP[↗].

Extending Functional Scene Graphs to Include Articulated Object States Spring 2026
3D Vision, ETH Zurich – team of three

- Added articulation state to functional 3D scene graphs, so a robot tracks a changing scene without rescanning. Grounding DINO, SAM and Qwen3-VL detect objects and parts, merged across RGB-D views.
- Fusing repeated interactions cut axis-angle error by 36% (4.99° to 3.19°) and axis-line position error by 19% (0.139 m to 0.112 m). Joint-type accuracy rose from 86.6% to 100%.
- Wrote the proposal and final presentations, reviewed the team's code, and documented the pipeline.

Skills

- **Programming:** Python, C/C++, TypeScript/JavaScript, Java, C#
- **Robot Learning & ML:** PyTorch, reinforcement learning (PPO, Adversarial Motion Priors), Isaac Lab, MimicKit, Newton GPU simulator
- **3D & Vision:** RGB-D reconstruction, point clouds, 3D scene graphs, Grounding DINO, SAM, vision-language models
- **Web & Data:** React, Next.js, FastAPI, Spring Boot, PostgreSQL, MongoDB
- **Tools:** Docker, Linux, Git, SLURM (ETH Euler and NTNU Idun GPU clusters)
- **Languages:** Norwegian (native), English (bilingual), Marathi and Tulu (spoken at home), Hindi (conversational)

Experience

Apprentice – Sandnes Kommune Aug 2020 – Jul 2022

- Configured and maintained networks, and installed 10+ switches for Sandnes Rådhus.
- Managed users, devices and access control in Active Directory, Azure AD, Airwatch, Google Admin and eFeide.

Intern – Tietoevry 2019 – 2020 (6 weeks)

- Built robotic process automation (RPA) with UiPath, using OCR to reduce manual processing.

Volunteering

Developer – Make NTNU Sep 2025 – Present

- Maintain the student organisation's website.

Board member – Badminton OSI, the student sports club Aug 2023 – Jan 2025

- Managed tournament registration for club members.