



Janosch Bajorath

Date of birth: 10/07/1995 | **Nationality:** German | **Phone:** (+49) 015739404648 (Mobile) |
Email address: j.bajorath@uni-muenster.de | **GitHub:** [TheExplorer95](https://github.com/TheExplorer95) | **GitLab (work):** [jbajorat](https://gitlab.com/jbajorat) | **Address:** Einsteinstraße 62, 48149, Münster, Germany (Work)

● ABOUT MYSELF

PhD candidate working on deep RL locomotion controllers for quadrupeds (Unitree GO1/GO2), with hands-on simulation and hardware experience.

● EDUCATION & TRAINING

01/05/2024 - Current - MÜNSTER, GERMANY

PHD- UNIVERSITY OF MÜNSTER

Reinforcement learning-based control architectures for quadruped locomotion.

- Development of deep RL locomotion controllers in simulation
- Learning and analysis of structured latent state representations
- Design of modular policy architectures for adaptive motor control
- Investigating adaptability, robustness and sim-to-real transfer

Field(s) of study: Computer Science | **Website:** <https://www.uni-muenster.de/AISystems/>

01/04/2020 - 30/04/2024 - OSNABRÜCK, GERMANY

MASTER OF SCIENCE- UNIVERSITY OF OSNABRÜCK

Field(s) of study: Cognitive Science (AI and Robotics) | **Final grade:** 1.0 | **Thesis:** Holistic Benchmark for Visual and Range-based Perception Systems - 3D Human Detection Robustness against Solar Radiation

01/10/2019 - 31/03/2020 - OSNABRÜCK, GERMANY

BACHELOR OF SCIENCE- UNIVERSITY OF OSNABRÜCK

Field(s) of study: Computer Science

01/10/2016 - 30/09/2019 - OSNABRÜCK, GERMANY

BACHELOR AND MASTER OF SCIENCE- UNIVERSITY OF OSNABRÜCK

Field(s) of study: Biosciences (Biophysics) | **Final grade:** 1.6 and 1.2

● WORK EXPERIENCE

01/05/2024 - CURRENT - MÜNSTER, GERMANY

UNIVERSITY RESEARCH ASSOCIATE- UNIVERSITY OF MÜNSTER

- Supervision of undergraduate and graduate research projects in reinforcement learning and robotics
- Teaching assistant for courses in Robotics, Reinforcement Learning, and Deep Learning

Department: Autonomous Intelligent Systems

01/01/2022 - 31/03/2024 - OSNABRÜCK, GERMANY

RESEARCH ASSISTANT- GERMAN RESEARCH CENTER FOR ARTIFICIAL INTELLIGENCE

- Design and integration of hardware–software test infrastructure for multi-sensor perception evaluation
- Migration of a Gazebo-based simulation environment to NVIDIA Isaac Sim
- Implementation of high-precision RTK-GPS localization for mobile robotic platforms and dynamic objects

Department: Plan-Based Robot Control

01/06/2020 - 31/10/2021 - OSNABRÜCK, GERMANY

UNIVERSITY RESEARCH ASSISTANT- UNIVERSITY OF OSNABRÜCK

- Development of a holonomic Mecanum-wheeled robotic platform
- Analysis of latent representations in artificial neural networks for explainability and interpretability

01/11/2019 - 30/04/2020 - OSNABRÜCK, GERMANY

UNIVERSITY STUDENT ASSISTANT- UNIVERSITY OF OSNABRÜCK

Application of Upconversion Nanoparticles for Sensitized Optogenetics

15/11/2016 - 31/12/2017 - OSNABRÜCK, GERMANY

UNIVERSITY STUDENT ASSISTANT- UNIVERSITY OF OSNABRÜCK

Characterization of the Canonical Wnt Signaling Complex

● **SKILLS**

Python | C++ | ROS | Linux | IsaacSim | Gazebo | Machine Learning | Computer Vision | Reinforcement Learning | Robotics | Multi-Sensor Data Processing | Unitree Go1/Go2 | CAD

● **HONOURS AND AWARDS**

08/02/2018 University of Osnabrück
State Scholarship of Lower Saxony

● **PUBLICATIONS**

Latent Representations Encoding Behavior and Modulating Adaptivity in Locomotion Learning 2026
Bajorath, J., Schilling, M. Springer LNCS proceedings SAB - International Conference on the Simulation of Adaptive Behavior (Poster - Accepted)

Towards Auto-Generated Ground Truth for Evaluation of Perception Systems in Agriculture 2025
Krause, Jan Christoph, Niemeyer, M., Bajorath, J., Iqbal, N., and Hertzberg, J. Springer Nature
doi.org/10.1007/978-3-031-91835-3_13. Computer Vision – ECCV 2024 Workshops

Diffraction-Unlimited Photomanipulation at the Plasma Membrane via Specifically Targeted Upconversion Nanoparticles 2021

Drees, C., Rühl, P., Czerny, J., Chandra, G., Bajorath, J., Haase, M., Piehler, J. ACS Publications
doi.org/10.1021/acs.nanolett.1c02267. Nano Letters 21

● **PROJECTS**

01/05/2024 - CURRENT

GaitRL GaitRL is a modular framework for training, evaluating, and benchmarking deep reinforcement learning gait controllers for legged robots. Built on top of NVIDIA Isaac Sim and Isaac Lab, it provides a configuration-driven pipeline for end-to-end locomotion policy development — from training with domain randomization to evaluation and demonstration.

Link <https://github.com/TheExplorer95/gaitRL>