

Robin Uhrich

📍 University of Tübingen
@ robin.uhrich@gmail.com
📧 RobinU434

🎓 M.Sc. Machine Learning
🌐 <https://robinu434.github.io/>
🌐 robin-uhrich-bb2891293

EDUCATION

University of Tübingen

Master Machine Learning

Tübingen, Germany

since October 2023

Politecnico di Milano

Erasmus Exchange, Master Computer Science

Milano, Italy

February 2025 – August 2025

University of Freiburg

Bachelor Computer Science

Freiburg im Breisgau, Germany

October 2019 – September 2023

University of Stuttgart

Aeronautics and Space Engineering

Stuttgart, Germany

October 2018 – September 2019

PUBLICATIONS

Occupancy Modeling via Drifting: One-Step Generation Enables Direct Policy Extraction

2026

Robin Uhrich, Marco Bagatella, Núria Armengol Urpí, Pavel Kolev, Georg Martius

Preprint, arXiv:2610.19883

PROJECT WORK

University

Master Thesis

since October 2025

- Supervision by Prof. Georg Martius, Dr. Pavel Kolev, Núria Armengol Urpí, and Marco Bagatella.
- Topics: occupancy modelling, generative models, offline meta-RL.
- Resulted in the preprint arXiv:2610.19883 (see Publications).

Distributed RL on Optimal Transport *Research Project* 📄

April 2025 – October 2025

- Project under Prof. Marcello Restelli and with Dr. Marco Mussi.
- Topics: environment design, multi-agent RL, Flatland3.

Field Robot Event *Multi-Disciplinary Project at PoliMi*

March 2025 – June 2025

- Team project under Prof. Matteo Matteucci and Dr. Simone Mentasti.
- Topics: navigation, deep visual object tracking, decision making.

Multi-Agent RL in Laser Hockey *Course Project* 📄

December 2024 – February 2025

- Course project by Prof. Georg Martius.
- Topics: SAC, Dyna, replay buffers, self-play, entropy regularization.

Generalized Simulation Based Inference *Research Project* 📄

October 2024 – April 2025

- ML-Lab project under Prof. Jakob Macke and with Julius Vetter.
- Topics: diffusion modeling, Bayesian and probabilistic learning.

LR - Scheduler Analysis *Seminar Project* 📄

April 2024 – July 2024

- Seminar project under Prof. Philipp Hennig and Dr. Frank Schneider.
- Topics: Vision Transformers, hyperparameter search, CIFAR-10.

Precipitation Prediction Analysis *Course Project* 📄

December 2023 – February 2024

- Course team project under Prof. Philipp Hennig and Emilia Magnani.

- Topics: data science, climate data, data collection.

EASRL-LM-2D-IKB *Bachelor Thesis* environment pipeline

July 2023 – September 2023

- Project under Prof. Joschka Boedecker and with Jasper Hoffmann.
- Topics: variational inference, reinforcement learning, SAC, inverse kinematics.

Learning Quadrupedal Locomotion From Scratch *Research Project*

April 2022 – September 2022

- Research project under Prof. Joschka Boedecker and with Jasper Hoffmann.
- Topics: reinforcement learning, PPO, robotics, sim-to-real, reward shaping.

ALE Plots *Seminar Project*

May 2022 – September 2022

- Seminar project under Dr. Janek Thomas.
- Topics: interpretable machine learning, accumulated local effect plots.

Student Assistant

Human2Humanoid VLA *Research Project*

October 2025 – March 2026

- Project under Prof. Georg Martius and Prof. Wieland Brendel.
- Topics: tele-operation, re-targeting, RL, action representation, VLA finetuning, human-to-robot generalization.

Hand Kinematics Estimation from EMG Data *Software Development*

August 2024 – February 2025

- Student assistant under Dr. Cosima Prahm and with Daniel Höglinger.
- Topics: deep learning, EMG kinematics data, sequential modeling.

Vision Imitation Learning for Modular Robots *Research Project*

May 2023 – August 2023

- Internship under Dr. Andrea Giusti and Dr. Marco Todescato.
- Topics: probabilistic learning, robotics, object tracking, distributed systems.

Automated Pavement Operation *Research Project*

September 2021 – November 2022

- Student assistant under Prof. Alexander Reiterer and Dr. Annette Schmitt.
- Topics: deep learning, computer vision, real-time systems, HPO.

Private

LazySlurm

since November 2025

- Terminal UI for monitoring Slurm HPC jobs, published on PyPI.
- Topics: TUI design (Textual), HPC job monitoring, remote SSH backend.

Simplified RNNs

since April 2025

- Simplification of the GateL0rd architecture by Dr. Christian Gumbsch.
- Topics: recurrent architectures, latent state similarity.

SPARK

April 2025 – November 2025

- Stochastic Policies Augmented for Robust Knowledge/Exploration.
- Topics: reinforcement learning, generative modelling, SAC.

Tide

since February 2025

- Torch Integrated Data Engine.
- Topics: time series data toolkit, feature engineering.

C2C

since October 2024

- Configuration files to structured Python classes.
- Topics: configuration management, VS Code integration, code generation.

CLIfy

since September 2023

- Command line interface forge for Python.
- Topics: automatic code parsing and generation, automatic argument parsing.

Hexa-ROS

since May 2021

- Hexapodal locomotion in ROS2 for the Freenove Big-Hexapod robot.
- Topics: ROS2, Jetson Nano, stereo vision, SLAM, locomotion, electronic design.

ACADEMIC WORK EXPERIENCE

University of North Carolina at Chapel Hill - *Visiting Researcher (upcoming)*
Group of Prof. Weitong Zhang

Chapel Hill, NC, USA
November 2026 – December 2026

University of Tübingen - *Student Assistant*
Autonomous Learning Group - Prof. Georg Martius

Tübingen, Germany
October 2025 – March 2026

BG Clinic - Tübingen - *Student Assistant*
Hand, plastic, reconstructive, and burn surgery - Dr. Cosima Prahm

Tübingen, Germany
August 2024 – February 2025

Fraunhofer Italia - *Internship*
Advanced Robotics - Dr. Andrea Giusti

Bolzano, Italy
April 2023 – August 2023

Intelligent Machine-Brain Interfacing Technology - *Student Assistant*
Neurorobotics - Prof. Joschka Boedecker

Freiburg im Breisgau, Germany
July 2022 – April 2023

Fraunhofer Institute for Physical Measurement Technology - *Student Assistant*
Object and Shape Detection - Prof. Alexander Reiterer

Freiburg im Breisgau, Germany
June 2021 – March 2023

University Clinic Freiburg im Breisgau - *Student Assistant*
Institute of Medical Bioinformatics and System Biology - Prof. Melanie Börries

Freiburg im Breisgau, Germany
March 2020 – May 2021

TECHNICAL SKILLS

- Python (NumPy, PyTorch (Lightning), Gymnasium, SciKit-Learn, Pandas, SB3, PettingZoo, ...)
- C, C++, C#
- (NO-)SQL-Databases
- Docker
- ROS, ROS2
- Git
- SVN
- Mechanical CAD (Autodesk Inventor)
- Embedded systems (Arduino, ESP)
- SCRUM
- SLURM

AWARDS

- **Field Robot Event** *3rd place*
- **System Design Project** *3rd place*

August 2025
February 2020

EXTRA CURRICULAR ACTIVITIES

- **Private Statistics Tutor**
- **Volunteer at the European Workshop on Reinforcement Learning 18**
- **Organizer Machine Learning Reading Club**

September 2025 – October 2025
September 2025
February 2025 – June 2025

LANGUAGES

German (native), English (C1/C2)

PERSONAL INTERESTS

Archery (bronze medal at European Championships 2018), Running, Road cycling, Photography