Jonne van Haastregt

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PROFESSIONAL EXPERIENCE

Nov 2023 – present
Stockholm, Sweden

Research Engineer, *Division of Robotics, Perception & Learning @ KTH*
- Designed and built a system for robot actuation driven by natural language.
- Deployed cutting-edge algorithms onto hardware (e.g. diffusion policies).
- Created a digital twin with teleoperation and imitation learning in VR.
- *Relevant hard skills:* ROS, Unity/C#, Python, C++, Git, Linux

Jan 2023 – Jul 2023
Södertalje, Sweden

Thesis Intern Autonomous Driving, *Scania AB*
- Increased possible driving speeds up to 20 km/h compared to available occlusion-aware methods while able to guarantee collision-free trajectories.
- *Relevant hard skills:* C++, Python, Git, Linux, Docker

Dec 2022 – Mar 2023
Stockholm, Sweden

Research Intern NASA Astrobee project, *KTH Royal Institute of Technology*
- Programmed and integrated a nonlinear model predictive controller (MPC) for the astrobee robots. Result on GitHub Nasa Astrobee Project
- *Relevant IT Skills*: ROS, C++, Python, Git, Linux

Jan 2021 – Aug 2021
Enschede, Netherlands

Faculty Council Member, *University of Twente, Faculty of Engineering Technology*
- Advised the Faculty Board on issues regarding policy, budgeting, introduction of new research or educational programmes, and more.

Feb 2020 – Feb 2021
Enschede, Netherlands

Chairman W.S.G. Isaac Newton, *Study Association @ University of Twente*
- Enabled 200 active members to organize social, educational, and career activities for our 1800 members.
- Managed the unexpected covid crisis.
- Cultivated a flexible and adaptable can-do mindset. Gained organizational experience. Association Website

EDUCATION

Sep 2021 – Jul 2023
Stockholm, Sweden

Master in Systems, Control & Robotics, *KTH Royal Institute of Technology*
- Achieved excellent grades (ToR attached).
- *Relevant coursework:* Modelling of Dynamical Systems (B), Model Predictive Control (A), Applied Estimation (B), Advanced Machine Learning (A)
- *Relevant hard skills:* ROS, Python, MatLab & Simulink, Git, Linux, Docker

Sep 2018 – Jul 2021
Enschede, Netherlands

Bachelor in Mechanical Engineering, *University of Twente*
- *Graduation project*: Multi-sensor disturbance feedforward control for active vibration isolation systems using Kalman filtering.
- Took on many leading roles in projects from the industry.
- *Relevant courses:* Flexible Multibody Dynamics (8.5/10), Embedded Systems (9.5/10), Statistics (8.5/10), Linear Algebra (9.5/10)

PUBLICATIONS

Highway-Driving with Safe Velocity Bounds on Occluded Traffic,
Accepted to IEEE International Conference on Robotics and Automation (ICRA) 2024
Truls Nyberg*, Jonne van Haastregt*, Jana Tumova (*authors contributed equally).

A Robotic Skill Learning System Built upon Diffusion Policies and Foundation Models,
Under Review IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN) 2024
Nils Ingelhag*, Jesper Munkeby*, Jonne van Haastregt*, Anastasia Varava, Michael C. Welle, Danica Kragic (*authors contributed equally). Video on the website .

SOFT SKILLS

Desire to learn | Taking initiative | Teamwork
Adaptability | Problem Solving | Curious
Effective Communication | Project Management
Enthusiasm | Leadership | Fast Learner

IT SKILLS

ROS | Python | Unity | C#
C++ | Git | Linux
MatLab & Simulink | Docker

LANGUAGES

Dutch (Native) | **English** (Proficient) | **Swedish** (Medium, Learning) | **German** (Basic) | **Spanish** (Basic)

TECHNICAL BACKGROUND

- Autonomous Systems
- Computer Vision
- Signal Processing
- SLAM
- Reachability Analysis
- Motion Planning
- Machine Learning
- Dynamical Systems
- Algorithms
- Statistics and Estimation
- Decision Making
- Perception
- Mechatronics
- Embedded Systems

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