

Daniel Swoboda

Master's Student and Student Research Assistant in Cognitive Robotics
September 2nd, 1997 in Vienna, Austria

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EDUCATION

- **RWTH Aachen University** Aachen, Germany
Master of Science Candidate - Computer Science Since October 2020
Courses: Logic of Knowledge Bases, Mathematical Logic II, Perception and Control of Autonomous Networked Vehicles
- **Korea Advanced Institute of Science and Technology** Daejeon, South Korea
Exchange Student - Kim Jaechul Graduate School of AI February 2022 - August 2022
Courses: Machine Learning for Robotics, Robot Task and Motion Planning
- **RWTH Aachen University** Aachen, Germany
Bachelor of Science - Computer Science October 2017 - September 2020
Thesis: Sharing Promises and Requests in Multi-Agent Goal Reasoning for Logistics Robots

EXPERIENCE

- **Knowledge-Based Systems Group** Aachen, Germany
Student Research Assistant under the supervision of Till Hofmann with support of UnRAVeL Since March 2020
 - **TACoS**: Support of the development of the tool TACoS for synthesis of MTL controllers for timed automata and Golog programs.
 - **Multi-Robot Cooperation in Goal Reasoning**: Development and design of a lightweight form of high-level multi-agent cooperation within the goal reasoning framework based on sharing partial world states.

PROJECTS

- **Machine Learning for Automated Assembly Plan Generation**: In cooperation with the University of Toronto. Development of a novel approach for structural assembly segmentation to increase the performance of assembly-by-disassembly algorithms (September 2021 - February 2022).
- **VTOL for Wild Fire Detection**: In cooperation with the Government of the Canaries. Development of a full-stack application for automatic detection and mapping of wildfires from an autonomously operating VTOL (September 2021 - October 2021).
- **Autonomous Drones for Warehouse Inventorization**: Development of a computer vision and data processing stack for vision-based warehouse inventorization for the International Micro Air Vehicle Competition (March 2019 - October 2019).

PUBLICATIONS

- **Towards Using Promises for Multi-Agent Cooperation in Goal Reasoning**: PlanRob Workshop at ICAPS 2022

HONORS AND AWARDS

- RoboCup 2022 - 1st Place Logistics League - Bangkok, Thailand. July 2022
- RoboCup Asia Pacific 2021 - 1st Place Logistics League - Remote. November 2021
- RoboCup 2021 - 1st Place Logistics League - Remote. June 2021
- International Micro Air Vehicle Competition - 3rd Place Indoor Competition - Madrid, Spain. October 2019

VOLUNTEERING

- **Mentor - RWTH Aachen BeBuddy Program** Aachen, Germany
Support of incoming international students in their first semester. Since October 2022
- **Member - Technical Committee of the RoboCup Logistics League** Distributed Team
Design of the competition and development of supporting software. Since June 2021
- **Member - Carologistics, RoboCup Logistics League Team** Aachen, Germany
Development of a centralized goal reasoning robot agent for a production logistics scenario. Since March 2020
- **Member - Aachen Drone Development Initiative** Aachen, Germany
Development of autonomous drone software for competitions and projects. Since March 2019
- **Mentor - robo4you** Wiener Neustadt, Austria
Support of teams of high school students participating in robotics competitions. Since June 2017

LANGUAGES

- English, Fluent
- German, Native