



# ALEXEY GORSKIY

Master Student, Complex Adaptive Systems, 1st Year | Research Assistant

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## EXPERIENCE

### Research Assistant (Part-Time) | Chalmers University of Technology

Sep 2021 – Present

Gothenburg, Sweden

As a research assistant I am currently helping with the extraction and analysis of code from public GitHub repositories. The work consists mainly of data collection through web scraping and GitHub REST API, source code parsing (Python/RegEx), quantitative analysis (NumPy/Pandas) and data visualisation (Matplotlib).

### Summer Intern | Kvaser AB

Jun 2021 – Aug 2021

Mölnådal, Sweden

Development of ABS for an RC car. The work consisted mainly of: experiments for system verification, mechanical, electrical and control engineering, embedded systems programming, data communication and system design. The solution was developed with C on custom hardware communicating via the CAN protocol.

### Teaching Assistant (Part-Time) | Chalmers University of Technology

Nov 2019 – Sep 2021

Gothenburg, Sweden

As a teaching assistant I graded exams, labs and also helped students during lab and exercise sessions. I worked in the courses "machine oriented programming" and "introduction to computer engineering". The courses taught low level programming (Assembly/C) and computer engineering concepts.

## EDUCATION

### Master's Degree, Complex Adaptive Systems, 1st Year | Chalmers University of Technology

Sep 2021 – June 2023

Gothenburg, Sweden

The programme focuses on simulations, modelling, robotics, autonomous agents as well as machine learning and AI. Some examples of courses and tools utilised: artificial neural networks (PyTorch, TensorFlow), stochastic optimisation methods, dynamical systems, autonomous robots (C++, Docker, CI/CD).

### Bachelor's Degree, Automation & Mechatronics | Chalmers University of Technology

Sep 2018 – June 2021

Gothenburg, Sweden

The programme focuses on mathematics, mechanical engineering, programming, electronics, computer engineering, economics as well as technology-integrating courses in mechatronics and automation. Some examples of courses and tools utilised: OOP and Data Structures & Algorithms (Python/Java), low level programming (Assembly/C/PLC), linear algebra, multivariable calculus, statistics (Mathematica, MATLAB), CAD (Catia/Fusion 360), theoretical courses in mechatronics (Arduino), electrical, mechanical, computer and control engineering as well as data communications. The thesis entailed programming a mobile manipulator to carry objects of any shape between two locations and can be found summarised here (Gazebo/ROS): [https://alexeygorskiy.github.io/projects/mobile\\_manipulation](https://alexeygorskiy.github.io/projects/mobile_manipulation)

## PROJECTS

### Meteor Shower - A Machine Learning Problem | |

Nov 2020 – Dec 2020

The goal of this project was to design an environment where little red squares (envisioned as spaceships in space) learn to avoid little grey squares (envisioned as meteors) with the help of machine learning. For more information and description of the implementation see: [https://alexeygorskiy.github.io/projects/meteor\\_shower](https://alexeygorskiy.github.io/projects/meteor_shower)