MANFRED HÄSTMARK

High Performance Computing Masters Student at Chalmers

SKILLS

C++	2 yrs
GoogleTest	2 yrs
C	3 yrs
CMAKE	1 yrs
GIT	3+ yrs
Linux	2+ yrs

CONTACT

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PROFILE

High-Performance Computing Master's student at Chalmers with a passion for embedded software development. Experienced in C++ in both student projects, such as Chalmers Formula Student, and in professional environments at Ericsson. Some highlight projects which I have developed are a BMS-system, integration of unit-testing in Chalmers Formula Student, and a emigration from singleton-patterns to dependency injection at Ericsson.

WORK EXPERIENCE

Embedded C++ developer at Ericsson JUNE 23 - NOW
Research and Development

I did an internship during the summer of 2023 and has since worked part-time in parallell with school. The work I have conducted can be summarized as restructuring software patterns in the startup procedure software for the base stations.

- Changing design pattern from singleton -> dependency injection
- Uplifting GoogleTest version
- General code cleanup

Technologies include:

- C++
- GoogleTest
- Linux
- Gerrit

Manager Chalmers Formula Student SEP 24 - DEC 24
Embedded/LV sub-group

The purpose of the manager role in Chalmers Formula Student is to onboard the new team and set major concepts, and give guidance for next years car design. The manager group along with the managers for all subsystem of the car consisted of 15 persons and were selected from the previous years project engineers by a faculty advisor.

- Recruited and held interviews
- Co-created concept for LV hardware
- Implemented CAN interface for inverter client
- Helped plan for and guide new team

EDUCATION

2020-2023

Bachelors, Computer Science and Engineering
Chalmers University of Technology

In my bachelors I got to learn about basic computer architecture as well as the basics of algorithms and embedded software. Furthermore, we had basic courses in linear algebra, statistics, calculus and electronic circuits.

2023-2025

Masters, High Performance Computing
Chalmers University of Technology

The main topic of my masters is how heterogenous computing can be used to either increase energy efficiency or to speedup computer programs. Some noteable courses include an introductory course to HPC parallel computing which included GPU program with cuda, as well as parallell computing with OMP and MPI. Another highlight was also an advanced course in real time programming were multiple scheduling algorithms were surveyed and a basic proof of concept real time music player was implemented on a distributed system of three STM32 processors with CAN communication.

Engineer Chalmers Formula Student SEP 23 - SEP 24
Embedded Software Engineer

I was Co-responsible for the embedded software together with one other person. Together we did a major refactoring of the entire code-base in order to create a more modular and testable system. Generally, a lot of the design principles that I had seen and worked with at Ericsson were implemented along with some functionality changes to accomodate new hardware.

- New BMS software
- Unit-test integration with GoogleTest
- Restructured and modularized project structure
- Integrated new workflow inspired from V-model
- Many other smaller projects...

Technologies include:

- C++
- GoogleTest
- Gitlab
- Foxglove
- Basic electronics hardware knowledge