MANFRED HÄSTMARK

High Performance Computing Masters Student at Chalmers

SKILLS

C++	2 yrs
FreeBSD	1 month
C	3 yrs
CMAKE	1 yrs
GIT	3+ yrs
Linux	2+ yrs

CONTACT

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PROFILE

Hello, my name is Manfred, and I'm a master's student at Chalmers studying my last year at the masters program **High Performance Computing**. I have a big interest for **embedded** devices and I really enjoy exploring new languages, features and operating systems. One of my latest explorations were in modern **C++**, where I created a simple tool for finding a directory and where I tried out C++ modules introduced in C++20 and also some other bits and pieces from this release to hide the unit-testing from the source code. Another language I have also been interested in is **Zig**, in which I did this year's (2024) advent of code in. Outside my spare time I also enjoy enrolling in projects where I get to develop my skills within software development.

WORK EXPERIENCE

Ericsson 2023 - 2025
Embedded C++ developer

For the last two years I have been doing an internship/part-time job at Ericsson within **software development**. My main tasks have been to swap-out singleton-patterns with dependency injection and also some general code tidying. With these tasks, I have developed my **C++** skills and also gotten to learn how to work in a larger code-base. As part of Ericsson workflow, all my changes have also gone through rigorous **code-reviews** and **CI-flows**, and I have also gotten experience testing my changes on real hardware.

Experience: C++, GoogleTest, Linux, Gerrit, Jira, Git

Chalmers Formula Student 2024 - 2025
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.

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Chalmers Formula Student 2023 - 2024
Embedded C++ developer

I was part of the embedded subgroup of Chalmers Formula Student 2024. This is a student driven project with around **50 students** building a car from scratch each year to compete in the formula student challenge. The time spent is equivalent to a full-time job or more and I developed a lot of software and team relation skills during this year. The project entailed collaboration with various different engineers from different departments and I learned a lot about working in a larger project from start to finish. My main highlights are writing unit-tests for the whole code-base, creating a battery-management-system (BMS) and integrating V-model style workflow.

Experience: C++, GoogleTest, Linux, Gitlab, CI-flow, basic PCB and circuit knowledge