

## ABOUT ME

---

I'm a mechanical engineer and a software developer. My multidisciplinary background helps me understand the needs and challenges that people of different backgrounds face. This makes me an excellent developer, problem solver, communicator and team-player.

I can help you with anything from writing firmware in Rust to machine learning in Python. I have great math skills and use them to solve problems related to 3D graphics, modeling and physics simulations.

### Background:

I started out as a mechanical engineer, but I have changed tracks towards software development. The reason behind this change was simple, I love to create things and learn about new technologies. In particular I was drawn to software development because it allows for faster iterations. Just compile and you get new a prototype. Even rust compiles faster than a 3D-printer!

While I have more experience using python, I prefer to use Rust whenever possible. Having used mypy in larger projects, I prefer to have strong typing built into the language itself.

## EMPLOYMENT HISTORY

---

### Alten Sverige AB 2018-06-01 .. ongoing

At Alten I have worked with wide range different projects. Within product development I have worked with mechanical-design, electronics and software development. See the project sections for details.

#### *Role & Responsibilities*

Product development, consulting.

consulting

### Materials Research 2015-08-01 .. 2016-09-01

At **Jönköping University** I supported research activities as a lab-technician.

#### *Role & Responsibilities*

CNC-machining, test-rigs, assisting with experiments.

SolidWorks

MasterCam

LabView

# SOFTWARE PROJECTS

---

*Professional experience of software development.*

## Desktop CAD App 2022-08-01 .. ongoing

Created an application for **CerInvent** that allows the user to generate molds for manufacturing dental crowns.

Python NumPy SciPy PyQt PyMadCad Gmsh PyVista CATIA GitHub CI/CD

## AI Student Workshop 2022-06-01 .. ongoing

Helped **Alten** attract students by preparing a workshop for Machine-Learning master students. [Repository](#)

*Role & Responsibilities*

Preparation of source code and data for the event. Deployment example using Flask.

Python NumPy Pandas TensorFlow Keras Flask RNN GitHub Docker DigitalOcean

## Medical Device 2021-09-01 .. 2022-02-01

Developed **Multi4**, a device for taking biopsy samples for cancer-diagnostics.

*Role & Responsibilities*

Firmware for embedded device, mechanical design, prototyping and testing.

Arduino SolidWorks

## Hygiene Device 2021-05-01 .. 2021-10-01

Developed the **Paprtect** prototype, a finger cover dispenser for public touchscreens.

*Role & Responsibilities*

Firmware for embedded device, pcb design, prototyping and testing.

Arduino KiCad

## MedTech Startup 2020-12-01 .. 2022-12-01

Started the company **Orthovelox AB**, that aims to produce innovative solutions for orthopedic healthcare. Orthovelox develops design software based on 3D scanning.

*Role & Responsibilities*

Product Development, Software development, Project-Lead, Fund raising.

Python NumPy SciPy PyVista GitHub CI/CD Azure PyTest mypy 3D-Modeling

## IoT Device 2020-12-01 .. 2022-12-01

Developed proof of concept for **Progressive Safety**.

*Role & Responsibilities*

Firmware for development boards, testing and PCB cost estimates.

Arduino c++ BlueTooth

## Electric Forklift 2019-03-01 .. 2019-08-01

Helped **Helge Nyberg** develop an electric forklift for indoor use. The forklift uses force sensors instead of a conventional user interface.

*Role & Responsibilities*

Firmware for processing user input to actions and emulation of inertia.

Arduino

## PRODUCT DEVELOPMENT PROJECTS

---

*Professional experience of product development (without software development).*

### **Mechatronic Components** 2022-04-01 .. 2021-01-01

Helped **Husqvarna** with product maintenance and development of motor controllers, HMI panels and motors used in handheld battery powered products.

#### *Role & Responsibilities*

Coordinated product development between different **Husqvarna** sites and subcontractors. Mechanical design and configuration management of mechatronic components.

CATIA

SmarTeam

Teams

### **Disposable Medical Device** 2020-03-01 .. 2020-06-01

Designed a disposable flashlight for gynecology examinations.

#### *Role & Responsibilities*

Mechanical design and testing.

SolidWorks

### **Automotive Accessories** 2018-04-01 .. 2020-04-01

At **Thule** I developed torque keys, load carries and roof boxes. I also developed a friction drilling production method and helped with migration from version control systems.

#### *Role & Responsibilities*

Mechanical design, testing, prototyping and production development.

SolidWorks

SmarTeam

YaPdm

## SIDE PROJECTS AND AUTODIDACTISM

---

*Various for fun projects that have improved my skills.*

### Selfhosting 2024-02-01 .. ongoing

To learn about server fundamentals I selfhost a number of services for my family here: [myhome](#) Instead of relying on docker, I opted use nix to achieve better reproducibility.

web linux nix hosting nextcloud matrix mailserver git-server

### Product Configurator 2023-11-14 .. 2023-12-01

A proof of concept where a [chair](#) rendered as a 3D model and based on meta-data about the 3D model a number UI elements are dynamically generated. So that same binary application could be used show how many different products can be configured. Only the frontend was made. [Repo](#)

Rust egui three-d GitHub cross-platform web windows linux

### delamat.se 2023-09-04 .. ongoing

A sideproject where the plan is to make a website where users can share recipes and shoppinglists. The main purpose of this sideproject is learning how to use htmx and axum in practice. [Repo](#). Website: *Not yet deployed*.

Rust CSS HTMX axum sqlx GitHub open-source

### halfedge lib 2023-05-24 .. ongoing

I have been frustrated with available libraries for rust and python for boolean operations on 3D-models. Therefore I started this project that aims to provide an opensource rust library with python bindings. The ambition is to provide robust boolean operations on halfedge datastructures. The project is heavily inspired by the white paper: [Exact, robust, and efficient regularized Booleans on general 3D meshes](#). [Repo](#).

Rust 3D-Modeling GitHub open-source

### Web Resume 2023-02-01 .. ongoing

I maintain my resume as a website and the source code is available at [GitHub](#).

HTML CSS Tera Zola SSG open-source GitHub

### WASM Web App 2023-01-01 .. 2023-01-10

Implemented [Conway's Game of Life](#) as a [webb app](#) using rust. [Repo](#)

WASM Rust HTML CSS GitHub

### Python Cad Library 2022-12-01 .. ongoing

I contribute to the capabilities of [MADCAD](#), an opensource python CAD library.

Python Numpy PyTest open-source GitHub

### Daily Driver: NixOS 2022-11-01 .. ongoing

I use Linux for both work and personal projects. Currently I use NixOS and benefits from the robust development environments it offers.

Linux Nix

### Embedded Rust 2022-07-01 .. 2022-10-01

I made simple data acquisition firmware using rust for stm32 and nrf52 development boards. As a compliment I also made a desktop app to plot values from the devices.

Rust USB nrf52 stm32

### The Rust Book 2022-05-01 .. 2022-07-01

Taught myself rust using the [Book](#) and fell in love.

Rust

## FORMAL EDUCATION

*Just a starting point...*

**Master: Mechanics** 2016-08-01 .. 2018-06-01

At **Jönköping University** I studied product development, materials engineering and design optimization.

SolidWorks CATIA FEA MatLab Visual Basic

**Project: Solar Car** 2014-08-01 .. 2015-12-01

Designed and built a solar powered car. Competed with the car in the [World Solar Challenge](#), a 3000km long race on the public roads of Australia.

*Role & Responsibilities*

System Engineering, Battery and Solar Panel design, CNC-machining.

SolidWorks FEA MasterCam Arduino

**Bachelor: Mechanics** 2012-08-01 .. 2017-06-01

At **Jönköping University** I studied product development, materials engineering and design automation.

SolidWorks FEA MatLab Visual Basic PLC



## SKILLS

3D-Modeling Arduino axum Azure BlueTooth c++  
CATIA CI/CD consulting cross-platform CSS  
DigitalOcean Docker egui FEA Flask git-server  
GitHub Gmsh hosting HTML HTMX Keras  
KiCad LabView Linux mailserver MasterCam  
MatLab matrix mypy nextcloud Nix nrf52  
NumPy open-source Pandas PLC PyMadCad  
PyQt PyTest Python PyVista RNN Rust SciPy  
SmarTeam SolidWorks sqlx SSG stm32 Teams  
TensorFlow Tera three-d USB Visual Basic WASM  
web windows YaPdm Zola

## LETS TALK

GlennWSO

Mail me

Web CV