SOFTWARE DEVELOPER & MECHANICAL ENGINEER
# GLENN WINBO SONDELL

## EMPLOYMENT HISTORY

### GWS Consulting AB *2024-09-01 .. ongoing*

I offer my services as a freelancing consultant within software- and product-development and IT.

*Role & Responsibilities*

Product development, consulting, IT

consulting   freelancing

### Alten Sverige AB *2018-06-01 .. 2024-05-01*

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. Started as a python project, but is now manly relying on rust.

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

### AI Student Workshop *2022-06-01 .. 2022-09-01*

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. Deployed AI backend using Flask.

Python   NumPy   Pandas   TensorFlow   Keras   Flask   RNN   GitHub   Docker   DigitalOcean

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

Started the company **Orthovelox AB**, that aims to produce innovative solutions for orthopedic healthcare. Orthovelox developes 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

# MECHATRONIC PROJECTS

*Professional experience of electronics and embedded systems.*

### 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

### 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

# MECHANICAL PROJECTS

*Professional experience of mechanical product 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.*

### sondell.org *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 repreducablity.

`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 shopinglists. The main purpose of this sideproject is learning how to use htmx and axum in practice. ⧉Repo. Webbsite: *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 opensoruce rust library with python bindings. The ambition is to provide robust boolean operations on halfedge datastructres. The project is heavly 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

## LETS TALK

 GlennWSo
 Mail me
 Web CV

## SKILLS

3D-Modeling  Arduino  axum  Azure  BlueTooth  c++
CATIA  CI/CD  consulting  cross-platform  CSS
DigitalOcean  Docker  egui  FEA  Flask  freelancing
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