

# Manuel Schmidbauer

SOFTWARE ENGINEER

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## Personal Profile

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Software Engineer with a bachelor's degree, almost 4 years of professional and ~8 years of general software engineering experience  
Love for software development, open source software, learning about and creating state-of-the-art technologies  
Searching for a backend or IoT software engineering position, but also open to explore new fields

## Work Experience

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### CHARGE-V GmbH

Munich, DE

Working Student IoT Software Engineer

Jun 2020 - Oct 2022

IoT Software Engineer

Dec 2022 - Jun 2024

Starting out as a working student, I quickly took on significant responsibilities and greatly shaped the company within a span of four years. Occupied the key role in engineering the operational fundament and DevOps automation for a satellite AC/DC electrical vehicle charge station system.

- Collaborated with a ~10-person SCRUM team to engineer client and backend software
- Greatly guided and supported colleagues
  - Reviewed and challenged architecture concepts
  - Reviewed and discussed feature implementations
  - Drafted and integrated coding standards
  - Mentored new colleagues
  - Helped conducting assessments of applicants
- Architected, engineered and maintained 6 MQTT based microservices, written in Python and C++
  - Scalable and secure software update system
  - Secret management and injection system based on TPM2.0
  - Yocto/Isar based Linux kiosk system
  - Linux management utilities
  - Communication interfaces to external hardware components
- Engineered and maintained custom CI/CD automation to manage 20 repositories
  - GitLab CI/CD based pipeline for C++, Python and TypeScript
  - Python based and centrally managed CI/CD automation logic
  - C++ building and packaging using Conan and CMake
  - Engineered Robotframework based framework for end-to-end testing virtual charging stations
- **Technical Skills:** Python, C++, Linux, MQTT, Yocto, Django, Docker, PostgreSQL, Gitlab CI/CD

## Education

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### University of Applied Sciences Munich

Munich, DE

B. Sc. in Computer Science

Oct 2018 - Dec 2022

- **Total Grade:** 2.0
- Thesis:
  - Grade: 1.3
  - Title: Concepting a secure and efficient software update system for electrical vehicle chargestation clusters
- Projects:
  - Tech Lead in an ~20-person university project developing a 3D multiplayer game with the Unreal Engine
  - Developing a prototype microservice based chatbot for emergency situations in Rust for an external company
  - Implementing a simple programming language interpreter in Haskell

# Projects

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## oecis

2023

SSO management platform

[gitlab.com/oecis/mirage](https://gitlab.com/oecis/mirage)

- Platform to create and manage accounts for single-sign-on logins
- Management of custom hosted open source services in Kubernetes
- Development of frontend and backend
- **Technologies:** Elixir, Phoenix, Tailwind, Kubernetes, Helm, Terraform, ORY

## instruct

2022

DSL for Makefile like tasks

[crates.io/instruct](https://crates.io/instruct)

- A domain specific language to write general purpose 'Makefile like' tasks which are powerful and reusable
- **Technologies:** Rust

## dotjector

2021

dotfile templating

[crates.io/dotjector](https://crates.io/dotjector)

- A dotfile generation, templating and injection tool, based on thetera templating engine
- **Technologies:** Rust

## espify

2020

additional keyboard for Spotify playback

[github.com/espify](https://github.com/espify)

- A additional keyboard to control your Spotify playback and get current song's information
- Written in C++, targeting the ESP32 with the ESP-IDF SDK
- Custom 3D printable models
- **Technologies:** C++, ESP32, ESP-IDF, OpenSCAD

## timed

2020

mobile physics puzzle game

[play.google.com/timed](https://play.google.com/timed)

- A mobile physics puzzle game about activating force fields at the right moment
- **Technologies:** C#, Unity Engine

## contributions

2020 - 2024

various small open source contribution

- Merged several small code changes in public open source repositories
- Submitted several bug reports and feature requests
- **Repositories:** beam\_file, veloren, helix, lego, pr0p0st

# Skills

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**Programming** Rust, Python, C++, Elixir, C#, C, Go, Java, TypeScript, Haskell

**Technologies** Linux, Git, Docker, Gitlab CI/CD, Yocto/OE, PostgreSQL, CMake, Conan, Blockchain, WASM, Bevy Engine, Godot, Unity Engine

**Soft Skills** Teamwork, Solution Engineering, Documenting, Knowledge Sharing, Onboarding, Time Management

# Languages

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**German** Native proficiency

**English** Professional proficiency

Further references available on my git profiles or upon request