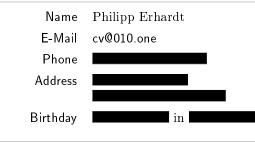
Résumé



Education

November 2020 - today **Technical University of Munich Bachelor** of Science in Informatics (expected completion 2024)

July 2016 - July 2020 Gymnasium Graduated with Abitur

September 2012 - July 2016

Language skills

- German: Native language
- **English**: B2+/C1
- French: B1+ (DELF)

- IT skills and abilities

- Embedded development: Basic experience with STM32 microcontrollers using C++ and Rust, close to hardware
- Web development: Good knowledge in HTML, CSS, JavaScript/TypeScript, Vue and WebAssembly with Rust
- Go: Very good knowledge (HTTP servers, bots and web scrapers)
- App development: Basic knowledge in Flutter for Android
- **Databases**: Basic experience with SQLite and PostgreSQL
- Git: Used in almost every project, often with Gitea or GitHub, there also experience with CI/Actions
- Linux: Experience with scripting, Docker, Raspberry Pi, Valgrind, GDB/rr, Strace and other typical tools
- Basic knowledge in Rust, C, C++, Assembly (x86-64), Java, Dart, C# (WPF) and Python
- Effective research skills with search engines, Stack Overflow etc.
- Office: Word, Excel basics and PowerPoint

Interests

Space exploration and rocket technology, cycling, medicine, programming, electronics Website 010.one GitHub @xarantolus StackOverflow @xarantolus LinkedIn in/erhardt-philipp Blog blog.010.one

Experience

Amazon Web ServicesBerlin, August – October 2023Kernel & Operating Systems Engineer Intern (EC2)As part of an EC2 team that builds the AWS Nitro System, the underlying platform for all modern EC2 instances, I built an internal performance data analysis tool.

Technical University of MunichMay – September 2022

Tutor in the lab course on Computer Architecture Responsibilities: holding two tutor sessions per week, grading projects

and helping students learn C, x86-64 Assembly and optimization techniques (SIMD etc.).

Internship as a system integration specialist Student Club Activities

May 2023 – today

Scientific Workgroup for Rocketry and Spaceflight (WARR) Software Developer (MOVE)

I am actively involved in developing a bootloader for **STM32** microcontrollers in Rust, which enables **on-orbit firmware updates for upcoming satellites**. Work I've done includes writing parts of the bootloader, extensive testing and formal verification, and fixing bugs in the booted real-time operating system (based on RODOS).

Projects

ax - x86-64 Emulator for WebAssembly (Rust) - ax.010.one

- Emulates execution of x86-64 instructions in the browser
- Can load and execute simple ELF binaries
- Emulation of a small number of Linux syscalls
- Extensive test suite supported by scripts for automatically finding test cases
- CI pipeline automatically publishes releases on NPM

sensibleHub – Music server (Go) – GitHub

- Web-based management of music files and tags
- Synchronization possible via built-in FTP server
- $\bullet\,$ Docker multi-architecture build for x86-64, ARMv7 and ARM64 $\,$

Further projects are presented on my website 010.one and on my GitHub account @xarantolus.

• Open-Source Contributions

- Mealie: Upload images for recipe steps from mobile devices #2025, duplicate recipes #1750 (Python, Vue)
- Owncast: Several pull requests for new frontend and backend features as well as improvements to the admin UI (Go, React)