

# Joel Schumacher

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## Short Profile

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Please have a look at my portfolio for detailed information about 40+ of my personal projects I have made over the last 10 years, including 18 game jam games, a few larger games, small game/graphics engines, level editors, a web server, a text editor, a LuaJIT profiler, and numerous other tools and libraries:

<https://theshoemaker.de/projects>

My portfolio shows that I have been highly motivated to build a diverse range of things for a long period of time. I do not back away from problems that seem too large or too difficult, but rather I am intrigued by them and I have always carried this attitude into my professional work as well.

## Work Experience

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### Ericsson GmbH

*Developer*

**Germany**

02/2019–12/2023

- Developed and maintained a Diameter Signaling Controller (a router for signaling in mobile networks) using C++ on Linux
- Developed customer and developer tooling using Python
- Maintained a large legacy code base and fixed numerous bugs in a distributed, highly multi-threaded application while regularly using tools like gdb, strace, tcpdump, etc.
- Initiated and led migration to C++11: Evaluated adoptability of new features, ported source code and offered guidance on modern usage of C++
- Ported application to Kubernetes:
  - Part of the initial team that led the migration and laid the groundwork
  - Replaced proprietary components for e.g. metrics, inter-process communication, databases, configuration management, etc. with technologies like Prometheus, PostgreSQL, REST (HTTP)
- Supported customers in troubleshooting their deployments and identified and fixed issues in live systems
- Mentor new colleagues

### Institute for Man-Machine Interaction

*Student Assistant*

**RWTH Aachen University**

04/2016–03/2018

Developed a microservice web framework based on Flask and gRPC in Python

### Institute for Software & Tools for Computational Engineering

*Teaching Assistant*

**RWTH Aachen University**

10/2013–03/2014

Taught "Introduction to Programming" exercise classes for computational engineering and physics students (C++)

## Education

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### RWTH Aachen University

*Completed 39 credits towards Master of Science, Physics*

**Germany**

10/2016–04/2018

Focus of Study: Condensed Matter Theory

### RWTH Aachen University

*Bachelor of Science, Physics*

**Germany**

10/2011–09/2016

Bachelor's thesis: *Symmetry Breaking and Transition to Chaos in Binary and Rate Networks* at the Institute for Computational and Systems Neuroscience & Theoretical Neuroscience at the Forschungszentrum Jülich

## Skills

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**Languages:** German (native), English (fluent)

**Programming Languages:** C++, Python, Lua

**Software:** Linux, Git, Docker, Kubernetes, Meson, CMake, PostgreSQL

**Libraries/APIs:** Linux/POSIX, OpenGL/GLSL, OpenSSL, io\_uring, Boost ASIO, HTTP/1.1, SQLite