

Lars Munaf

Software Engineer · Computer Graphics · Geometry Processing

✉ lars@munaf.de 🌐 lmunaf.de 📍 Berlin, Germany



WORK EXPERIENCE

Student Research Assistant 11/2022 – Present

Technische Universität Berlin · Computer Graphics Group (Prof. Marc Alexa) | Berlin

- Contributed to implementing the algorithms presented in *Hierarchical Optimization of the ARAP Energy* (acknowledged)
- Developed an interactive multithreaded Polyscope demo for asynchronously rendering updated hierarchical solutions
- Implemented multigrid hierarchies and hierarchical ARAP parameterization
- Developed a Python/OpenGL renderer prototype
- Assisted in teaching *Computer Graphics I and II*

C++ Python CGAL Eigen libigl OpenGL CMake

Working Student — Linux Security 11/2020 – 10/2022

Siemens Mobility GmbH · Rail Infrastructure | Berlin

- Co-developed a Linux kernel module using SecurityFS to restrict process execution
- Conducted threat analyses to identify real-world use cases for the kernel module
- Maintained an internal tool for secure server connections

C Linux Kernel GitLab CI/CD

R&D Software Engineer 11/2019 – 09/2020

Telekom Innovation Laboratories · Blockchain Group | Berlin

- Contributed to the development of the *Ice-9* MVP for memory-based anomaly detection of IoT devices
- Ported a core component of *Ice-9* from C to Go, using the Linux perf subsystem
- Assisted in maintaining a testbed of 40 Raspberry Pi devices
- Collaborated in an international Scrum team

Go C Linux Scrum

Technical Innovation Associate 10/2017 – 10/2019

Telekom Security GmbH · Innovation & Incubation | Berlin

- Implemented a pilot for evaluating contractors in fiber-optic network deployment as part of a student team
- Co-developed a public health blockchain prototype at the MÜNCHNER KREIS & IBM Hackathon
- Assisted with technical due diligence on blockchain startups

Bash Docker

EDUCATION

M.Sc. Computer Science 2021 – 2026

Technische Universität Berlin

Grade: 1.4 (very good)

Thesis: *Harmonic Optimization for Graded Tetrahedral Meshes*

Undergraduate Studies in Mathematics 2020 – 2021

Technische Universität Berlin

B.Sc. Applied Computer Science 2017 – 2020

Hochschule für Telekommunikation Leipzig

Grade: 1.3 (very good)

Abitur 2012 – 2017

Sophie-Charlotte-Gymnasium

Grade: 1.2 (very good; DPG Abitur Award)

SKILLS & INTERESTS

Programming Languages: C++, Python, C, Go

Graphics & Geometry: Blender, CGAL, Dear ImGui, libigl, Polyscope, OpenGL

Libraries: Eigen, matplotlib, nanobind, NumPy, PyTorch

Systems & Toolchains: Linux, CMake, GCC, Clang, LLDB, Docker, PostgreSQL

Development Workflow: Git, GitLab CI/CD, Code Review, Merge Requests

Languages: German (native), English (C1), French (B1; six-month stay in Paris)

Interests: Badminton (20+ years; appearances in the German 2nd Bundesliga), Piano (10+ years), Volunteer Poll Worker