

Luca Killmaier

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Summary

Breathing code and outputting software since middle school, from game mods to freelance software gigs at 18. I have shipped production systems in healthcare manufacturing, energy, automotive and e-commerce. Nowadays I draw my motivation from architecting complex systems: designing the data models and APIs, and seeing a system through from first prototype to daily production use.

Experience

Software Engineer, Freelance

- Full-stack web and software engineering for embedded systems, for clients across healthcare, energy, e-commerce, and automotive. Selected engagements below.

Full-stack, Production control & shop-floor platform, custom orthopaedics & prosthetics manufacturer (Bavaria) 2022 – 2023,
2025 – 2026

- Lead engineer for a platform that tracks every unit's progress through the factory live and automates previously manual production scheduling. In daily use as the primary production-control tool.
- Consolidated four legacy source systems (MSSQL cluster) into one live view, via isolated per-database MikroORM contexts over composite-key legacy schemas.
- Built a deterministic scheduling engine of pure functions over batched lookups, recomputed each ingest cycle and unit-tested without a database.
- Configurable table views (column sets, filter trees, persisted layouts) assembling their GraphQL query at runtime, rendered in a virtualised grid with cursor pagination.
- TypeScript end to end: NestJS / GraphQL / MikroORM backend, Vue 3 / Vite SPA, Testcontainers-backed tests, Windows Server deployment.

Embedded, Smart-meter edge platform, energy-technology manufacturer (Baden-Württemberg) 2023 – 2025

- 2.5-year engagement (600+ commits) on the Go service platform of an embedded Linux module that hosts containerized energy apps behind certified smart meter gateways (BSI TR-03109-05, CLS channel).
- Designed and built mutually-authenticated MQTT-over-TLS backend connectivity end to end, with on-device X.509 PKI and certificate lifecycle APIs.
- Added signature verification of firmware and app images to the OTA path and hardened the A/B update state machine and rollback behaviour.
- Consolidated nine services into one multiplexed executable to cut the footprint on the resource-constrained ARM target.
- Introduced automated, SBOM-based CVE screening as a CI stage for the whole platform.
- Go, gRPC, MQTT, PostgreSQL, Yocto, Docker, GitLab CI.

Full-stack, E-commerce web software (various retail clients)

2018 – 2024

- Full-stack React / Next.js frontend.
- Node.js backend, GraphQL, AMQP.
- DevOps and Kubernetes cloud deployment.

Software Engineer, Full-Stack, FTAPI Software GmbH – Munich, Germany

Mar 2021 – Sept 2022

- Agile development of a large-scale, encryption-focused data-sharing platform.
- Designed and implemented an all-new GraphQL API layer to replace REST.
- Java (Spring), Vue.js, GraphQL, Apache Groovy.

Data Science Intern, Autonomous Driving Data Management, DXC Technology – Munich, Germany

Aug 2019 – Nov 2019

- Deployment-automation solutions for machine-learning tooling in Ansible.
- Operated a data lake for in-vehicle data ingestion on OpenShift / Kubernetes clusters.
- Python, Ansible, OpenShift / Kubernetes, Elastic, Hadoop.

Software Engineering Intern, Hewlett Packard Enterprise – Böblingen, Germany

Jan 2019 – May 2019

- Built an internal student-information and internship-seeking platform.
- Server-side rendering with Next.js against Workday APIs.
- React.js, Next.js.

Education

Ludwig-Maximilians-Universität München, B.Sc. in Computer Science and Media – Munich, Germany

2021 – 2025

Lancaster University, Computer Science – Lancaster, UK

2022 – 2023

- ERASMUS study-abroad program, full academic year.

Skills

Languages: Go, Python, TypeScript / JavaScript, Java (Spring), Swift

Web: Vue 3 & Nuxt, React & React Native, Next.js, NestJS, Node.js, Vite

APIs & data: GraphQL, gRPC, Protobuf, MQTT, AMQP, SQL (PostgreSQL, MS SQL Server), MongoDB, MikroORM, Prisma

Security: mTLS & X.509 PKI, signed A/B OTA updates, CVE screening & SBOM (CycloneDX)

Infrastructure: Docker, Kubernetes, OpenShift, embedded Linux (Yocto), GitLab CI, Testcontainers

Languages

German: Native

English: Fluent