Oliver Baumgartner

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Profile

Engineering student with strong **Go** and **Python** experience, passionate about automation, microcontrollers, and scalable backend systems.

Education

ETH Zürich   *Expected Graduation: July 2026*
Bachelor of Science in Electrical Engineering and Information Technology
Grade: 5.85 / 6.0 (= Top 5 %, Excellent)
Relevant Coursework: Algorithms & Data Structures, Control Systems, Embedded Systems, Introduction to Machine Learning

Experience

Software Engineer (Civil Service, Full-Time)   *Kantonsspital St. Gallen, Mar – Jun 2023*

- Developed and maintained internal web applications (guidelines.ch) using **React (frontend)** and **Go (backend)**.

- Migrated database middleware layer to Go (PostgreSQL) improving query efficiency and reliability.

- Implemented new features end-to-end across frontend and backend, improving usability and response times.

- Refactored key endpoints, improving throughput by 30 % and halving average load times.

- Collaborated in a small team using Git with code reviews; participated in release testing and deployments.

Selected Projects

UrbanLens — NASA Space Apps Challenge 2025

- Built a Python backend and preprocessing pipelines for 7 environmental satellite data layers.

- Implemented an unsupervised anomaly detection algorithm (*Isolation Forest*) to map city irregularities.

- *Stack: Python, FastAPI, Next.js*

PAX — Basel Hack 2024 (1st Place)

- Created an insurance onboarding app with instant approvals and automated back-office support.

- Delivered working prototype in 24 hours with a 5-person team; won 1st place at Basel Hack 2025.

- *Stack: React, Next.js, Prisma*

Variometer

- Designed and built a custom ESP32-based variometer with a custom PCB and integrated display, using a Kalman filter to reduce measurement latency by 15 ms compared to commercial models.

- *Stack: C, ESP-IDF*

More projects with full details available at oliverbaumgartner.com

Technical Skills

Languages: Go (strong), Python, C/C++, TypeScript, SQL, C#
Frameworks: React, Next.js, FastAPI, Prisma
Tools: Linux, Git, Docker, PostgreSQL, CI/CD, REST APIs
Areas of Interest: Web development, Embedded Systems, Backend

Availability: Summer 2026 (full-time internship); Zurich.