Viktor Gsteiger

+41 76 328 78 20 | v.gsteiger@gmail.com | OrCiD | GitHub | LinkedIn

Personal Data

- Date of Birth: 29.06.1998
- Place of Birth: Bern, Switzerland
- Citizenship: Swiss, Slovak
- Languages: German (Native), English (Professional), French (Elementary)

Education

University of British Columbia — Vancouver, Canada
Master Thesis self-organized Research Internship — *Nov 2023 – May 2024*

- **Master Thesis:** Caribou: A Holistic Framework for Optimizing Geospatial Serverless Workflow Deployment for Sustainable Computing

ETH Zürich — Zürich, Switzerland
M.Sc. in Computer Science (GPA 5.46/6) — *Sep 2021 – May 2024*
Major in Data Management Systems, Minor in Programming Languages and Software Engineering

- **Relevant Coursework:** Big Data, Cloud Computing Architecture, Design of Parallel and High-Performance Computing, Automated Software Testing

University of Basel — Basel, Switzerland
B.Sc. in Computer Science (GPA 5.7/6) — *Sep 2018 – July 2021*

- **Bachelor Thesis:** Evaluating Algorithms for Temporal Queries in Ad-Hoc Video Retrieval

Work Experience

ETH Zürich — Zürich, Switzerland
Research Assistant — *Oct 2023 – Nov 2023*

- Support the Distributed Systems Laboratory in the development of the Modyn platform. Rewriting latency critical parts of the platform in modern C++.

Palantir Technologies — London, United Kingdom
Forward Deployed Software Engineer — *Jul 2023 – Sep 2023*

- Implement custom data visualization, analysis workflows in Palantir's PySpark version, action applications in TypeScript, and user interfaces on the proprietary Palantir Foundry stack.

Business Systems Integrations AG — Zürich, Switzerland
Software Engineering and DevOps Working Student — *Jan 2022 – Jun 2023*

- *DevOps Engineer* (Sep 2022 – Jun 2023): Responsible for designing, implementing, and maintaining complex infrastructure systems. This includes using technologies such as Kubernetes, Helm charts, Artifactory, GitLab, Ceph storage, S3, OpenShift, Docker, PostgreSQL, and Oracle databases.
- *Software Engineer* (Jan 2022 – Sep 2022): Responsible for developing in a code base of approximately 2 million lines of code using Java and the Scout framework with a custom business solution stack on top for a national car leasing provider.

Bank for International Settlements — Basel, Switzerland
Full-Stack Software Engineering Contractor — *Feb 2020 – Sep 2021*

- Partnership of the BIS and the University of Basel under the direct supervision of Prof. Dr. Heiko Schuldt.
- Responsible for contributing to a natural language processing project framework in a Linux/Python/PostgreSQL/Azure DevOps/Angular environment, development and maintenance of information retrieval system.

Research Experience

University of British Columbia Vancouver, Canada
Master thesis at the CIRRUS Lab *Nov 2023 – Apr 2024*

- Working with Asst. Prof. Dr. Mohammad Shahrad on Caribou, an open source serverless workflow deployment framework that geospatially optimizes the deployment of serverless workflows for sustainability.
- Implementing the initial version of Caribou from scratch with the connected optimisation problem.
- Evaluating the performance of Caribou on a variety of serverless workloads on AWS and main author of the corresponding (unpublished) paper: *Fine-Grained Geospatial Shifting of Serverless Applications for Sustainability* .

ETH Zürich Zürich, Switzerland
Distributed Systems Laboratory *Sep 2022 – Jun 2023*

- Working with Prof. Dr. Ana Klimovic on Modyn (paper *A Platform for Model Training on Dynamic Datasets* published at *EuroMLSys23*), a work-in-progress open-source platform that enables ML researchers and practitioners to explore a wide variety of training and data selection policies.
- Worked on systems architecture with regard to data storage and retrieval in the context of the research platform and supported other researchers in architectural decisions with regard to data storage and cloud utilisation.
- Implemented a data storage abstraction layer that enabled a multitude of storage formats and platforms as well as research into data retrieval and storage costs with regards to dynamic datasets.

ETH Zürich Zürich, Switzerland
Cloud Computing Architecture Course Project *Feb 2022 – June 2022*

- Developed a dynamic scheduling algorithm for a cloud computing system that enables the system to dynamically adapt to the workload and the available resources.
- Participated in the lecture Cloud Computing Architecture which covers topics including server design, cluster management, large-scale storage systems, serverless computing, data analytics frameworks, and performance analysis.
- The project was supervised by Prof. Dr. Ana Klimovic and Prof. Dr. Gustavo Alonso.

Databases and Information Systems (DBIS) group Basel, Switzerland
Undergraduate Research Assistant and Bachelor Thesis *Jan 2021 – Sep 2021*

- Working with Prof. Dr. Heiko Schuldt on vitrivr participating at the Video Browser Showdown (VBS) in 2021 by actively developing temporal querying algorithms for multimedia item retrieval.
- Developed a temporal query parser and optimiser for the vitrivr system that enables users to query multimedia items by time intervals as part of my Bachelor Thesis (Grade 6.0).
- Contributed to papers *Interactive video retrieval evaluation at a distance: comparing sixteen interactive video search systems in a remote setting at the 10th Video Browser Showdown*, *Multi-modal Interactive Video Retrieval with Temporal Queries*

Skills

Programming: C, C++, Java, Kotlin, Python, MATLAB, R, SQL, Go, TypeScript

Technologies: Git, TensorFlow, Apache Kafka, Docker, Kubernetes, PostgreSQL, HDFS, Spark, Unix, Ansible, Terraform, AWS Lambda