

# Helge Liebert

DATA SCIENTIST · QUANTITATIVE ANALYST

Bristenstrasse 12, 8048 Zürich, Switzerland

+41 78 606 27 63 | helge.liebert@gmail.com | hliebert.github.io

hliebert | hliebert | 23.01.1986 | Swiss, German



*“15 years of experience with statistical modeling of real world data. Experience developing data-driven applications end-to-end in Python—from PoC to user-facing application. I’m lost without Vim keybindings.”*

## Experience

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### Senior Data Scientist

Zurich, CH

SWISS NATIONAL BANK

Since June 2022

- Definition of tasks for the team in agile work environment. Code review/mentoring of junior team members.
- Responsible for short-term inflation forecast, reporting to senior management.
- Improved existing inflation forecasting model and developed an internal forecast evaluation toolbox (time series xgboost, 10x reduction in training/inference time, experiment tracking using mlflow).
- Introduced a news-based nowcasting model for GDP and consumer sentiment (modern BERT using minimal compute resources, ETL pipeline using Apache Spark/HDFS on Cloudera, continuously updated).
- User-facing applications: Forecast monitor, sentiment tracker (dash); automated reports (quarto).
- Oversaw major cleanup of technical debt and migration from R to Python (10+ dependent repos transformed to fully integrated pipeline, shared components packaged).
- Developed tooling for recurring computations, packaged and published on internal PyPI mirror (30k+ LoC, testing using pytest with 60+% coverage).
- Established quality control practices: GitLab flow branching strategy, logging, git hooks, linting, standardized formatting, docs-as-code approach with automated HTML documentation generation and hosting.
- Modular Gitlab CI/CD pipeline and project templates used by multiple teams (pre-commit, ruff, pytest, mkdocs, twine).

### Senior Researcher

Zurich, CH

UNIVERSITY OF ZURICH

Nov. 2020 – May 2022

- Uplift modeling for optimal insurance assignment (generalized random forests, integer linear programming).
- Project lead on a worldwide survey (130k participants, budget 1.3M CHF, led three full-time RAs).
- Implemented ETL pipeline on UZH Science Cloud.
- Teaching: Methods for Unstructured Data, Computational Data Analytics for Economists, Text Analysis.
- Lab sessions served with JupyterHub/Repo2Docker using K8s on Google Cloud.

### Lead Data Scientist

Boston, USA

HARVARD MEDICAL SCHOOL

Mar. 2019 – Nov. 2020

- Project lead “Predicting Work Capacity in the Social Security Disability Insurance Program” (led team of three).
- Mined work history event data for 3.8M disability insurance applicants.
- Predicted residual earnings capacity based on work and medical history.
- PoC deployed on Harvard on-prem infrastructure, A/B testing of project success.

### Data Scientist

Zurich, CH

SANITAS, ADVANCED ANALYTICS

May 2018 – Feb. 2019

- Analyzed reimbursement outside of the provisions of statutory health insurance.
- Developed a model to detect wrongful reimbursement.

## Doctoral Researcher

UNIVERSITY OF ST. GALLEN

St. Gallen, CH

Feb. 2012 – Feb. 2018

- Data-driven research projects (non-parametric methods, causal ML). Multiple A-ranked publications.
- Teaching: Econometrics. Administration of internal IT infrastructure.

## Education

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### Ph.D. in Econometrics

UNIVERSITY OF ST. GALLEN

Feb. 2012 - Sep. 2017

St. Gallen, CH

- Specialization track: Econometrics. Thesis grade: 6.0/6.0. Best dissertation award 2017.
- Selected coursework: Computational Statistics, Database Systems, Econometrics of Big Data, Empirical Strategies for Causal Inference, Machine Learning and Causal Inference.
- Research visit: University of Uppsala, Department of Statistics.

## Skills

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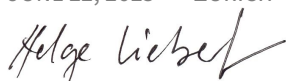
Programming	Python, R, SQL, Bash
ML toolkit	functime, langchain, lightgbm, matplotlib, mlflow, numpy, pandas, pyspark, pytorch, scikit-learn, sktime, xgboost
SW dev. in Python	dash, generating & hosting documentation, mkdocs, packaging, project templating, pytest
Tools	Apache Spark, Cloudera, Docker, GIS, Git, Gitlab, Linux CLI, pyCharm, Vim, VSCode
Operating systems	Linux, MacOS, Windows
Soft skills	Project management, working in multi-project and multi-culture environments
Languages	German (Native), English (fluent), French, Spanish (basics)

## Interests

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Climbing, Bouldering	Mostly outside on weekends, structured training during the week. Level: 7b os/8a rp. I enjoy the combination of physical and mental challenges in climbing.
Cooking	I enjoy good food, exploring new dishes and sharing meals with friends and family. Cooking good food is an everyday challenge and a skill to hone.
Open source	I am a long-time Linux user with contributions to open source libraries (e.g. sktime, a scikit-learn-compliant library for time series analysis and forecasting).

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HELGE LIEBERT