

Sol Thiessen

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15.06.2000
Canadian – B-permit

EDUCATION

ETH Zurich

September 2023 – September 2025

Master of Science in Computer Science — Grade: 5.4

Zurich, Switzerland

- Thesis: Interpretable Machine Learning for Golf Coaching
- Relevant coursework: Deep Learning, Probabilistic AI, Large Language Models, Computational Intelligence Lab, Computer Vision, Computer Architecture, Data Management Systems, Big Data.

University of British Columbia

September 2018 – June 2023

Bachelor of Applied Science in Electrical Engineering — Grade: 95%

Kelowna, BC, Canada

- Capstone: Distributed Sensor Network for Production System Monitoring and Control
- Recipient, Governor General's Academic Medal (Top graduating student across all undergraduate programs), 2023.

Okanagan Mission Secondary School

September 2013 – June 2018

High School Diploma — Grade: 95%

Kelowna, BC, Canada

- Valedictorian

PRACTICAL EXPERIENCE

Graduate Researcher — Machine Learning for Biomechanics

March 2025 – September 2025

Laboratory for Movement Biomechanics, ETH Zurich & Fenris GmbH

Zurich, Switzerland

- Completed master's thesis in collaboration with an industry partner using real-world markerless motion-capture data.
- Designed an end-to-end ML pipeline using an ensemble of sci-kit learn and custom-built PyTorch models to predict golf swing outcomes from kinematic and kinetic features and produce per-sample as well as aggregate explanations using a suite of explanation techniques.
- Discovered important relationships between golfer biomechanics and swing outcomes using ML interpretability techniques such as counterfactuals, accumulated local effects, LIME, and SHAP.
- Manuscript in preparation for submission. Read it [here](#).

Graduate Researcher — LLMs and Information Retrieval

September 2024 – January 2025

Computational Social Science Laboratory, ETH Zurich

Zurich, Switzerland

- Developed an LLM-agnostic retrieval-augmented generation pipeline using LangChain to convert collections of PDFs into queryable digital twins for disseminating scientific research.
- Implemented document ingestion, chunking, and vectorization (FAISS).
- Used Ollama to locally deploy and assess various LLMs in terms of response latency and output quality. Read the report [here](#).

WORK EXPERIENCE

Kellner (Part-time)

June 2024 – Present

Zimkaffee

Zurich, Switzerland

- Balanced part-time service work with full-time graduate studies at ETH Zurich, demonstrating strong time management and adaptability.
- Regularly communicate with customers and staff in German, improving to B1 proficiency and developing confidence in professional and social settings.
- Maintained high service standards and efficiency in a fast-paced café environment.

Web Developer (Part-time)

April 2020 – June 2023

Western Canadian Learning Network — non-profit delivering online K-12 education

Kelowna, BC

- Worked within a constrained CMS that disallowed custom JavaScript and therefore engineered CSS components to replicate dynamic behaviors without JavaScript.
- Designed a rapid video-production pipeline (tools: [OBS, Camtasia]) that reduced turnaround time from hours to minutes, enabling output of 20 tutorial videos/day.
- Built multiple JavaScript-based learning games used in math, physics, and biology focused on interactive quizzes and immediate feedback loops.

Undergraduate Researcher

September 2022 – January 2023

Multidisciplinary Undergraduate Research Projects in Health, UBCO

Kelowna, BC

- Collaborated on the development of a portable MRI prototype, focusing on RF coil transmit/receive switching and low-noise signal acquisition.
- Designed and tested analog circuitry, performing both SMD and THT soldering and validation of PCB assemblies.
- Simulated and characterized circuit behavior using SPICE-based tools to optimize switching performance and minimize signal distortion.
- Contributed to interdisciplinary work between electrical and biomedical engineering to advance accessible diagnostic imaging.

Teaching Assistant

January 2022 – May 2022

Industrial Automation Laboratory, UBCO

Kelowna, BC

- Assisted in teaching automation and control concepts using PLCs and sensor-based systems to 40+ engineering students.
- Supervised lab sessions, ensuring safe operation of industrial hardware and supporting experiments.
- Provided one-on-one mentorship and feedback, improving students' understanding of PID control and process automation.
- Supported course instructors in designing and grading lab assignments and project demonstrations.

SELECTED PROJECTS

poker.soljt.ch - Real-time Online Poker | *React 18, Flask, PostgreSQL, Docker*

July 2025

- Built and self-hosted an online platform for real-time multiplayer poker using WebSockets.
- Utilized PostgreSQL to store user and game information.
- Coded a REST API with Flask to get, add, modify, and delete data using the SQLAlchemy ORM.
- Ongoing: developing a reinforcement-learning agent to populate empty tables.
- Containerized and deployed to cloud server with Docker: poker.soljt.ch.

Real Space Hub – Intergalactic Real Estate | *JSP, SQL Server, Docker*

January 2023

- Created an online real-estate platform with JSP-based server-side rendering and SQL Server backend to manage products, reviews, and orders.
- Implemented search, category filters, review submission, inventory management, and a checkout workflow.
- Utilized JSP to provide user-friendly database interaction.
- Containerized and deployed to cloud server with Docker: realspace.soljt.ch.

TECHNICAL SKILLS

Programming Languages: Python, Java, C, TypeScript, MATLAB

Frameworks & Libraries: React, Flask, PyTorch, sci-kit learn, LangChain, FAISS, SHAP, LIME, Alibi

Databases: PostgreSQL, SQL Server

Web & Infra: REST APIs, WebSockets, Docker

Developer Tools: Git, Visual Studio, VSCode, Eclipse

LANGUAGES

English	Native
German	B1
French	A2

HOBBIES

Music	Guitar, piano, singing
Sport	Sport climbing, bouldering, powerlifting, golf
Other	Poker, chess

REFERENCES

References are available upon request.