

EDUCATION

University of Waterloo

Bachelor's of Applied Science, Honours Computer Engineering

Waterloo, Ontario

2018–Present

- Achieved a grade of **97%** (22 above average) in **Concurrency & Systems Programming**

EXPERIENCE

Enso Connect

Remote

Lead QA Architect / Backend Engineer

Nov 2020–May 2021

- Led the development from conception to production of an automation test suite and **GitHub CI/CD end-to-end dev-ops pipeline**, effectively managing a team of 3 people working remotely around the world in pressurized startup environment
- Created testing framework for entire web-app functionality, with **Pytest**, **Puppeteer** and in house precondition checkers
- Implemented / optimized **Elasticsearch** indexes and queries on **DynamoDB** to speed up **API** performance significantly
- Facilitated transition into **Serverless, NoSQL microservice** based auto-scaling **AWS** stack, keeping up with volatile demand
- Led integration of 2000+ VRBO properties into Enso Connect property management / communications platforms
- Played a large role in refactoring backend for **agnostic** and **test-driven dev** / found and debugged hundreds of bugs

TradeLogiq

Remote

Software Engineer Contract

Jan 2021–May 2021

- Independently developed a **Python** testing server complementary to our large-scale feed handler processing real-time trading data, with **multiple threads** utilizing **UDP** and **TCP** protocols and **concurrent thread protection** mechanisms
- Optimized retransmission request algorithm for missing data sequences, speeding up feed handler latency exponentially from minutes to seconds using dynamic programming / heuristic guided greed algorithm
- Conceptualized and created an internal cloud-monitoring **Python/ Flask** full stack application. Collected data and videorecorded the status of internal servers using ILO APIs and **Puppeteer**. Upon critical server errors, mass email / **Slack** messages are sent allowing the company to save thousands being able to react to server/network failures immediately
- Created **Vue / JavaScript** frontend to display both up-to-date and historical server statuses, updated periodically

TD Bank

Remote

Data Engineer

May 2020–Sep 2020

- Enhanced performance of existing **ETL** processes and **SQL** queries for reporting and analytic purposes using **SQL server** relational databases in **Agile workflow** environment with **Git**
- Experienced in analyzing anomalies in tables and statistical reports to debug faulty streamlines in stored **SQL** procedures
- Initiated building and optimization of **big data** pipelines for structured and unstructured data in analytical models
- Automated **Python** and **C#** scripts to preprocess, load and transform data in **ETLs**

Sky View Suites

Toronto, Ontario

Lead Software Developer

Sep 2019–January 2020

- Created over **50%** of **PHP Laravel** web app resulting in the automation of numerous business processes such as accounting, statistical reporting, and client management, in addition to working on **Vue.js PWA** and **Python** project
- Constructed dynamic user interfaces, creatively displaying **API** data using **JavaScript** clean and effectively
- Proposed and facilitated the implementation of enterprise **CI dev-ops pipeline** with **Jenkins** builds and unit tests
- Communicated technically complex issues to partners, understanding business implications of software solutions

Ford Motor Co.

Waterloo, Ontario

Full-Stack Developer

Jan 2019–May 2019

- Developed web-application in **Java**; interfaced **REST APIs** in **Spring/MVC** framework to provide diagnostic insights
- Designed and implemented **UI** using **HTML**, **CSS**, **JavaScript** and associated frameworks **jQuery**, **Knockout**, **Require.js**
- Acquired a proficiency using **SQL Server** interfacing over 50 tables, making efficient and modular database calls using **jOOQ** Object Oriented Querying, in addition to modifying **Bash** scripts migrating and structuring data
- Experienced with **cherry-picks**, **rebases**, **branching**, and other complicated features of **Git** version control

LANGUAGES

- **Python:** 5 years of experience
- **C/C++:** 4 years of experience
- **Java:** 3-4 years of experience
- **SQL:** 3-4 years of experience
- **NoSQL:** 1-2 years of experience
- **JavaScript:** 2-3 years of experience
- **PHP:** 1-2 years of experience

FRAMEWORKS

- **Flask/Django:** 4 years of experience
- **Laravel:** 2 years of experience
- **Spring Boot:** 1 year of experience
- **Vue.js:** 1 year of experience
- **React:** 2 year of experience
- **Angular:** 1 year of experience
- **.NET:** 1 year of experience

PROJECTS

- **AI Real Estate Evaluation:** Python / TensorFlow / Puppeteer / Google Cloud
 - Created **Puppeteer** web scraper to collect over **1 million** rows of real estate and geolocational data in **Postgres DB**
 - Optimized backend location queries, and cluster dedensification algorithms using geometric analysis
 - Creatively constructed a mathematical model to simulate the logarithm relation of price to properties with similar features
 - Coordinated with frontend engineers to dynamically display and serve prediction pricing model for any property type
- **Path Finding Visualization:** JavaScript / Flask / Python
 - Utilized **heuristic** guided modified Dijkstra's algorithm to find shortest airplane route from any airport in the world
 - Creatively visualized resource intensive **JavaScript** animations to optimize performance with concurrent programming on **React** portfolio website hosted on **EC2** using **NGINX**
- **Real Time Operating System Testing Framework:** C / Concurrency / Systems Programming (ECE-350)
 - Devised testing framework for lowest level operating system. Writing over 4000 lines of modular **C**, tackled the task of testing the nondeterministic nature of the real time EDF scheduler we implemented, in addition to testing the thread creation and inter-thread communication and signaling
- **API Performance Evaluation GLI:** C / Socket Programming
 - Using multithreaded socket programming, this tool provides statistics about API performance including average response time, min/max bytes per packet, used this for **load testing** purposes at Enso Connect, (significantly faster w **Elasticsearch**)

EXTRACURRICULAR ACTIVITIES

- Varsity / Semi-Professional Soccer January 2020-COVID
Leadership, mental toughness and commitment developed over years of meticulous practice playing for the University and with North Mississauga League One, training 5-8 times a week playing against the best in the province
- Piano Performance January 2020–Current
Creativity and expressiveness developed through piano performance at the highest level achieving the RCM level 10 certification.
- Math / Programming Tutor / Swim Instructor January 2018–Current
Developed strong language skills, mentorship and patience being able to communicate technically complex problems in a collaborative setting managing a client base of 40+ people

RECOMMENDATIONS

Luke McKim

Senior Engineer | TradeLogiq

"Stefan's understanding of **concurrency** and **socket-programming** was impressive over the term. Above all his ability to continuously think in terms of optimizing resource **utilization** and **algorithmic latency** helped him strive in this position."

Francois Gouelo

CEO / Founder | Enso Connect

"Stefan's **interpersonal skills** created a **collaborative** environment of sharing of ideas" ... "His strong understanding of software fundamentals, convention, and **modern infrastructure** was demonstrated during his time at Enso."