

# Frank Liu

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## SKILLS & ABILITIES

- Javascript
- Typescript
- Java
- Python
- Bash
- C/C++
- Ruby
- Rust
- HTML/CSS
- Vue/Angular/React
- Express
- Node
- Spring
- Flask
- SQL
- Elastic Stack
- Git
- Docker
- VMWare
- Linux
- Windows

## EDUCATION

**Bachelor of Engineering:** Software Engineer, Co-op  
Carleton University - Ottawa, Ontario

**09/2017 - 04/2022**  
GPA: 3.8

## ACHIEVEMENTS

- Nominated for Co-op Student of the Year 2020
- Entrance Award, Ontario Professional Engineers Foundation for Education, 2017-2022

## PROFESSIONAL EXPERIENCE

**Red Canari**

**05/2021 - 09/2021**

*Software Developer & Hacker*

*Ottawa, ON*

- Developed *RegenX*, a web tool that generates customized reports based on report schemas, using **React**, **Couch/PouchDB (NoSQL)**, and **Spring Reactive**
- Assembled a proxy database for runtime datatype analysis and version controlling through hooks, which uncovered over **40** data integrity issues/bugs
- Collaborated with the CEO and the marketing director to promote *RegenX* by providing technical support and use cases

**Ericsson**

**01/2021 - 04/2021**

*Python Developer*

*Ottawa, ON*

- Auto-generated over **30** pages of Network Entities APIs by creating Excel sheets, graphs and Json Schemas from datasets
- Performed load tests that support up to **50GB** of data, aggregated results, and identified scaling bottlenecks
- Created Python scripts to validate Json Schemas against network entities fetched from **Kubernetes**, which found over **5000+** instances of structural-inconsistencies

**Ericsson**

**05/2020 - 12/2020**

*Full Stack Developer*

*Ottawa, ON*

- Developed a proxy server written in **Typescript**, **Angular**, **PostgresDB**, and **Spring Boot**, responsible for network data version control and transformation
- Facilitated network simulation by leading development of a service using **Java** to batch process and feed data to 5G network labs, saving **15%** of network testing costs
- Refactored and enhanced Nginx and **Docker** configuration files to enable remote deployment on Windows and Linux

**Kinaxis** 05/2019 - 08/2019  
*Software Developer Data Server* Ottawa, ON

- Led development of a website written in **Javascript, Vue, Express**, and **SQLite** which fetches datasets from the **Elastic Stack** endpoints and generates graphs for a dashboard
- Automated REST test using **Mocha** and **Chai**

**Carleton University** 05/2018 - 07/2018  
*Systems Engineering Faculty - Software Developer* Ottawa, ON

- Implemented a program in Java that allows transferable datasets used for machine learning between DL4J and Keras frameworks
- Redesigned Java Learning by Observation Framework, increasing speed, scalability, and extensibility

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## PROJECTS

**Carleton Code Gym - Club Director** 01/2020 - Present

- Directed a programming education platform that improved the knowledge of software design practices and scalable algorithms to over 60 students
- Provided lessons on Git, Docker, Linux, Bash, multi-threading, data structures and algorithms

**Detectron2** 10/2021 - 12/2021

- Trained a Detectron2 AI with **Numpy** and **Pytorch** to detect the state of newborn babies on hospital beds
- Experimented with CNNs, Regressions, SVCs and optimization techniques such as momentums

**Linux Tutorial** 05/2018 - 02/2019

- Wrote articles explaining the usage and functionality of Linux software such as Package Managers and git, to help Windows users transition to Linux

**Linux Workflow Scripts** 12/2018

- Improved personal workplace efficiency by implementing a script that creates keyboard shortcuts for selecting, rearranging and re-sizing program windows
- Developed shorthand scripts for git, ln, mount, pkill and shred for Linux terminal

**Custom Linux Keyboard** 05/2018

- Aided Windows users transition to Linux by writing articles explaining the functionality of Linux software such as Package Managers and Git

**CU Hacking (Carleton's Hackathon)** 02/2018

- Developed a front-end interface using Python **Flask** and **gnuplots**

**Chess Learning Program** 09/2016 -12/2016

- Collaborated with other developers to code a Java application that interactively teaches students chess games and strategies
- Implemented a Computer Chess Player using the minimax algorithm and Tree Data Structures