**Karina (Iat Cheng) Lei**

https://KarinaLei.github.io | iatcheng.karinalei@gmail.com | Vancouver, BC, Canada

**Summary**

Agile developer with 2+ years of work and project experience in developing full-stack applications, data analysis tools, and instrumentation controls.

**Experience**

**Software & Instrumentation Engineer Co-op | BC Cancer Research June – December 2020**

* Implemented dynamic database queries in **Python** using **REST API** and **Django** framework
* Developed scripts to generate **JSON** and **XML** metadata to be submitted via **curl** **API** requests
* Automated data analysis and visualization tasks with **Bash** and **R** scripts
* Improved performance of scalable bioinformatics pipelines using **Python** and **Snakemake**
* Integrated dynamic **HTML** report generator into data analysis pipelines
* Led **firmware** development in **C++** to control high-precision fluidics system
* Designed **UI/UX** for control software that significantly improved users’ satisfaction

**Mechanical Engineer Co-op | LB Foster Rail Technologies January – April 2019**

* Facilitated product development, data analysis, and rigorous life-cycle testing

**Projects**

**Movie Nomination Engine | KarinaLei.github.io/MovieAwards4Entrepreneurs**

* Designed and built a dynamic movie search and nomination engine in **ReactJS** utilizing **OMDB REST API**

**Autonomous Vehicle Simulation | github.com/KarinaLei/beep-boop**

* Implemented **machine learning** algorithm with **Python** libraries such as **OpenCV, Keras, TensorFlow**
* Created **convolutional neural network** with >90% accuracy in detecting and reading license plates
* Utilized **reinforcement learning** for vehicle navigation training

**Education**

**University of British Columbia Fall 2017 – Spring 2022 (expected)**

**Bachelor of Applied Science | Engineering Physics**

* Dean’s Honour List, CGPA 4.0
* Design Team Affiliation: Software Developer at **Formula Racing UBC**
* Develop in-house data analysis software in Python and MATLAB

**Skills**

**Languages:** Java, Python, C++, JavaScript(ES6), HTML5, CSS3, Swift, SQL, C, R, Bash, Perl, MATLAB

**Technologies:** AWS (EC2, RDS, S3, etc.), Azure (Analytics, Storage Blob, VM, etc.), ReactJS, Redux, NodeJS, NPM, Django, iOS, Docker, MySQL, Unix/Linux, JSON, XML, Git, UI/UX, JUnit, Travis CI, Jira, Confluence, SSH, Conda, Machine Learning, NumPy, Keras, TensorFlow, OpenCV, ROS, SciPy, Gazebo, FTP Protocols, Pandas, Snakemake