# KRIS LAI

## Full Stack Software Engineer

@ kriskirla@gmail.com    6478688606    in laikris    kriskirla    kriskirla.github.io

## PROGRAMMING

Python · Java · C · C++
C# · Golang · Haskell
Scheme

Git · SVN · ClearCase
Docker

## METHODOLOGY

Agile (Scrum) · OOP
Software Architecture Design
Test Driven Development
Design Thinking · DevOps
CI/CD · SDLC

## WEB DEV

JavaScript · TypeScript
React · Angular · Node.js
Django · Spring Boot
PHP · HTML5
REST API · GraphQL

## DATABASE

Db2 · Postgres · InfluxDb
MongoDb · MySQL

## LANGUAGES

**English:** Native

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**Cantonese:** Native

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**Mandarin:** Working Proficiency

## EXPERIENCE

### Full Stack Software Engineer | Peak Power Inc   Jul 2020 – Present

- Full stack development on a web service which customer uses to gain analytical insights on their building such as energy usage, occupancy, climate settings, etc. Frontend developed using Angular with Spring Boot. Utilized Python, Java, and PHP as backend services to collect and interact with information from Energy Storage and Building Sensors. Server hosted on AWS and rerouting traffic using Elastic Load Balancer.
- Designed and implemented a multi-threaded Java driver with OOP to establish parallel connections and setup communications between software and IOT devices across North America. The driver decreased latency by 500% between sending and receiving data compared to previous workflow and reduced maintenance/deployment cost exponentially.
- Setup Kafka in Python to stream and process raw sensors data, filtering out noise and storing clean data. Designed an automated alerts service with post-processed sensors data.
- Containerizing backend API with Docker, and adding error tracking system Sentry and Datadog.

### Software Development Team Lead | IBM   Feb 2019 – Jul 2020

- Pioneered Project ARBIT to create a standalone service that automates the process of investigating failures within Db2. The API is built on top of Python and Golang, containerized as a RESTFUL service using Docker.
- ARBIT reduced the company's employee cost by around $1 million per year
- Led Db2's functional verification team of 11 developers and QAs, to ensure Db2 transitions from development to production stage with efficiency and minimal errors in every components.

### Digital Quality Engineer | RBC   May 2017 – Aug 2017

- Within one month, optimized the online application by minimizing the fields that are required to complete the application and enhanced compatibility with mobile devices on IOS and Android.

### Technical QA & Automation UI Developer | RBC   May 2016 – Aug 2016

- Test Automation UI Developer: Developed a Windows Application using C# for automatically generating a structured configuration file, which will automatically feed into Robot Framework for comparison between Teradata and local table.

## PROJECTS

### Algotrading | Personal Interest   Feb 2021 – Present

- Full stack development using Django and React framework which offers variety of techniques to assist in stock trading. Features includes Stock Forecasting with Machine Learning and Neural Network, VADER Sentiment Analysis, and Portfolio Optimization which process holdings from indices like S&P500 and Nasdaq-100 with Efficient Frontier to adjust weights and create a portfolio given the available fund.

## EDUCATION

### Bachelor of Science (B.Sc.) | University of Toronto   2013 – 2018

- Computer Science - Specialist in Software Engineering