

## WORK EXPERIENCE

### QUANDL

#### Data Engineer

Toronto

Sept. 2019 to Current

- Automated the data preprocessing pipeline for new datasets using PySpark and Amazon S3 to identify schematic errors, detect missing join keys and produce aggregate statistics
- Developed Python scripts to retrieve and parse financial data from Thomson Reuters Eikon for 200+ tickers used to run revenue correlations against internal data products
- Conducted time series analysis using PySpark to whitelist entities for inclusion in various data products

### FEDERAL DEVELOPMENT ONTARIO

#### Application Developer

Waterloo

Sept. 2018 to Dec. 2018

- Used React.js to design and implement the departmental document management web interface which localized GCDocs (OpenText Content Server) and Microsoft Sharepoint functionalities
- Employed an internal API to create form scripts in Typescript that contain event handlers for 40+ Microsoft Dynamics CRM entities released in production
- Implemented the Typescript Conversion solution which involved refactoring the codebase to be asynchronous, improving efficiency by 20%

### TREASURY BOARD SECRETARIAT

#### Project Support (Data Analytics)

Ottawa

May 2018 to Aug. 2018

- Developed facet grid and animated network visualizations in R for various datasets including the Public Service Employee Survey and Departmental Innovation Survey
- Assisted in conducting interviews, performed quality assurance and produced ad hoc compliance reports for senior management during the Audit of Privacy Practices

## PROJECTS

### VIZSORT

[github.com/fljiang/VizSort](https://github.com/fljiang/VizSort)

- Developed a Javascript web-application using React-Vis that generates bar graphs to visualize sorting algorithms
- Manipulated graph data and colour scheme in Redux to denote individual accesses and operations

### 3 LITTLE PIGS (IN PROGRESS)

[github.com/MelodyCheng99/3LittlePigs](https://github.com/MelodyCheng99/3LittlePigs)

- Collaborated as a pair to design and implement a Javascript web-application adaptation of the board game 7 Wonders, equipped with custom card and icon designs

### CHESS

- Collaborated with a small group to design and implement a highly modularized chess game in C++ that includes a graphical display and computer AI
- Applied object-oriented design paradigms and handled memory management using vectors and smart pointers

## SKILLS

**PROGRAMMING LANGUAGES:** Python, C, C++, Java, HTML, CSS, Javascript/Typescript, R, Matlab

**DBMS:** MySQL

**DEV TOOLS:** Git/TFS, Apache Spark, Databricks, AWS, Node.js, React.js, Redux, Microsoft Dynamics CRM

## EDUCATION

### University of Waterloo

Sept. 2016 to Current

#### BMath - Statistics and Computational Mathematics (Computing Technology Option)

Computer Science courses completed: Elementary Algorithm Design and Data Abstraction - Logic and Computation - Object Oriented Programming - Introduction to Computers and Computer Systems - Data Types and Structures