

# Edward Ren

github.com/EdwaRen | edwardren.me | linkedin.com/in/edwardren | e2ren@edu.uwaterloo.ca

---

**Languages** Python, SQL, JavaScript, C++, C, R, HTML/CSS, Visual Basic  
**Technologies** Pandas, PySpark, MongoDB, scikit-learn, Docker, Node.js, NumPy, Git, React

## Experience

### IBM

Calgary, Alberta

Cognitive Software Developer - Advanced Analytics

January 2019 – April 2019

- Created pipeline for partitioned **PySpark** dataframes to boost writes to S3 by 75% to 250k rows/second
- Parallelized merging and iterative operations in **Pandas** across 12 cores to speed up computations by 30%
- Delivered **randomForest** and **Adaboost** models to predict product activation rates with 90%+ accuracy
- Applied data preprocessing using **NLP** imputation strategies on 150 million+ dataframe rows

### Blackberry

Ottawa, Ontario

Software Engineering Intern - AI in Open Source

May 2018 – August 2018

- Developed **Dockerized** package regulatory system with **Django** to cut time spent on certifications by 90%
- Designed **association rule** learning model to reduce false positives in licensing conflict predictions by 30%
- Coupled microservices-based software stack with **Kafka** pipelines to expand scalability and slash latency
- Implemented scalable search indexing with **Elasticsearch** to manage analytics on 21 million commits

### WATonomous

Waterloo, Ontario

Full-Stack Lead - [watonomous.ca](http://watonomous.ca)

October 2017 – August 2018

- Led creation of autonomous vehicle team's website in **React** and **Express.js** to serve 5000+ monthly visitors
- Containerized production site in **Docker** with SSL and **Nginx** to trim page rendering times by 60%
- Wrote back-end server with **Node.js** and **MongoDB** to handle text and resume file uploads

### Ciena

Ottawa, Ontario

Open Source Software Intern

July 2016 – August 2016

- Detected licensing inconsistencies using tree traversal algorithms in **Visual Basic**, classifying 50% of tasks
- Mass-crawled remote repositories in **Python** to obtain URLs for 2,100+ licenses from 80+ sources
- Revitalized department's homepage with **React** and **D3.js** to graphically display weekly data for analysis

## Projects

**Coffee N' Code** - Data Science Lead

2019

- Led tutoring of models including decision trees, random forests, and Adaboost for sessions of 50+ members

**HeartBit** - CANSOFCOM Winning App at Hack The North ([github.com/EdwaRen/heartbit](https://github.com/EdwaRen/heartbit))

2018

- Built biometrics analytics app using image processing in **OpenCV** and **TensorFlow** to monitor anxiety

**Recycle Can** - Creator and Lead Developer ([recyclecan.ca](http://recyclecan.ca))

2017

- Architected iOS and web navigation app with 18,000+ downloads to guide users to nearby recycling centres
- App was featured by [Metro News](#) and [OttawaTechWatch](#), with endorsements by regional school board

## Education

University of Waterloo - Bachelor of Software Engineering

Sept 2017 – Apr 2022

- ACT Score of **35/36**, ranked 99th percentile

## Interests

Skiing, Blitz chess, Speedcubing, Rock climbing, Hiking, Quizbowl trivia