Alex **Wang**

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SUMMARY

Languages: C, C++, Python, Java, SQL, Scala, Go, HTML/CSS, JavaScript

Frameworks/Tools: MongoDB, NumPy, Pandas, Redis, Solr, React, Redux, JPQL, OpenGL, Git

EXPERIENCE

University of Waterloo – Undergraduate Research Assistant *Sep 2019 – Present*

- Conducting research into the use of triangular maps for **flow-based generative models** under Professor Yaoliang Yu.

Citadel – Software Engineering Intern | Commodities *May 2019 – Aug 2019*

Python, NumPy, Pandas, MongoDB, SQL Server

- Collaborated with traders to determine trading signals from price correlations and seasonality in commodities futures.
- Aggregated multiple data sources to track the voyages of over **5000** ships daily in order to model global crude supply and demand.
- Optimized caching of US Crude Microbalance model to speed up overall runtime by over **50%**.

University of Waterloo – Undergraduate Research Assistant *Jan 2019 – Apr 2019*

Python, OpenCV, NumPy

- Worked under Professor Alexander Wong to develop **computational lenses** for light field microscopy in computerized cancer analysis.

Wish – Data Engineer Intern | Ad Monetization *Sept 2018 – Dec 2018*

Python, Go, MongoDB, Redis, Solr

- Increased click rate of Product Boost ads by over **20%** by improving the classification methods of promoted products.
- Analyzed user behavior through **A/B testing** to introduce new ad revenue impression sources, adding an estimated **$150,000** in weekly ad revenue.
- Aggregated prediction pipeline data into **Redis** clusters to add additional filtering and improve the relevancy of search results.

IBM – Core Software Developer Intern | Watson Financial Services *Jan 2018 – Apr 2018*

Java, Javascript, React, Redux, JPQL, DB2

- Improved retrieval times of document records by **150%** by optimizing JPQL queries and migrated **millions** of document records to **IBM Cloud Object Storage** to improve scalability.
- Integrated **PDF.js** library into Watson Regulatory Compliance product to enable client side rendering/searching of documents.

PROJECTS

Python Neural Network – Python, NumPy

- Wrote **neural network library** and implemented **backpropagation algorithm** from scratch using NumPy.

Animation Facial Detection Classifier – Python, OpenCV, NumPy

- Implemented facial detection of 2D animated characters using a **Haar Cascade classifier** trained on 2500+ examples.

EDUCATION

University of Waterloo Computer Science and Statistics Double Major *2016 – 2021*
3.94 GPA

- Combinatorics and Optimization Minor, Computational Math Minor
- President's Scholarship of Distinction, Dean's Honours List every term