Alex **Wang**

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SUMMARY

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

Frameworks/Tools: MongoDB, Redis, Solr, React, Redux, JPQL, NumPy, OpenGL, Git, Bash, Docker, Jira, SVN

EXPERIENCE

Wish – Data Engineer Intern | Ad Monetization
Sept 2018 – Present

Python, Go, MongoDB, Redis, Solr, TreasureData

- 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 | 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.
- Took initiative to rewrite **Redux** reducers in immutable fashion to improve DOM tree re-render times by **over 100%**.

SideFX – 3D Software Developer | Houdini
May 2017 – Aug 2017

C++, OpenGL, QT

- Designed and implemented **Motion Path** tool to greatly improve animator workflow in **Houdini 16.5**.
- Rewrote **OpenGL shaders** to decrease viewport rendering and response times by **50%**.
- Worked alongside design team to redesign **QT** UI menu components for Houdini 16.5.

Finchway Group – Data Analyst
Jul 2016 – Aug 2016

Excel, VBA

- Published **7 articles** analyzing key Major League Baseball statistical trends during the 2016 season related to market inefficiencies.
- Performed **regression analysis** using thousands of data points on player offence/defence retrieved from Baseball-Reference.com to determine the contributions of individual baseball players towards team success.

PROJECTS

Python Deep Neural Network – Python, NumPy
2018

- Wrote **neural network library** and implemented **backpropagation algorithm** from scratch using Numpy for matrix math operations.

Animation Facial Detection Classifier – Python, OpenCV, NumPy
2017

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

Boulder Game Engine – Java, OpenGL
2016 – 2017

- Built **game engine** with functionality for 3D graphics, procedural terrain generation, and collision detection using **OpenGL**.

EDUCATION

University of Waterloo Computer Science, Co-op, 3.93 GPA
2016 – 2020

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