Alex **Wang**

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SUMMARY

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

Frameworks: React, Redux, MySQL, DB2, JPQL, Spring, JUnit, NumPy, OpenGL

Tools: Git, Bash, Docker, Jira, SVN, Vim, Intellij, Visual Studio

EXPERIENCE

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

- Improved retrieval times of document records by **150%** by optimizing JPQL queries and migrating **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.
- Created **5+ React components** for internal IBM Common Library and updated React library to v16.0 for performance improvements.
- 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*

- 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*

- 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**.

Surviving SE RPG – C++, OpenGL, Arduino *2016 – 2017*

- Created **2D RPG** with controller input read from the accelerometer and button data of a **Tiva C Launchpad microcontroller**.

EDUCATION

University of Waterloo Software Engineering, Co-op *2016 – 2021*

- **3.95 GPA**, President's Scholarship of Distinction, Dean's Honours List
- **Self learning:** *Stanford Machine Learning* and *Johns Hopkins Data Science Specialization* through Coursera