**Richard K. Kim**

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**Education**

**University of Michigan - Ann Arbor Anticipated Graduation: December 2018**

B.S.E. in Computer Science

Minor in Mathematics

Major GPA: 3.75 Cumulative GPA: 3.62

**Coursework**: Operating Systems (EECS 482), Machine Learning (EECS 445), Computer Organization (EECS 370),

Web Databases & Info Systems (EECS 485), Linear Algebra (MATH 217), Data Structures & Algorithms (EECS 281)

**Professional Experience**

**J.P. Morgan Summer Technology Analyst June 2017 – Present**

*New York, NY*

- Created an end-to-end platform to help developers visualize and automate complex database manipulations

- Implemented asynchronous search with a buffered renderer to drastically improve responsiveness of the application

- Developed RESTful architecture and services using Java/Spring Boot to facilitate efficient client-server communication

**Undergraduate Researcher in Computer Vision September 2015 – May 2016**

*Real-Time Photometric Stereo, Professor Laura Balzano, Michigan EECS*

- Implemented Photometric Stereo using four computer screen lighting configurations to generate 3D images in real-time

- Programmed efficient matrix decompositions and manipulations utilizing caching to speed up computation by ~25%

- Generated script that would take live webcam feed in OpenCV and pipe the images directly in to the application

**Projects**

**Wikipedia Search Engine / Hadoop |** Python

- Incorporated Page Rank and Indexing algorithms along with MapReduce to search Wikipedia articles based on query

- Implemented Hadoop in Python, utilizing concurrency through threads and processes to efficiently distribute work

- Utilized sockets, TCP/UDP to create multiple communication layers between processes to signal work, heartbeat, status

- Integrated robust fault tolerance feature such that MapReduce can handle an unexpected shutdown/error in the processes

**Cognizant (MHacks 8) |** Swift

- Developed a mobile app that utilized Open Data provided by City of Detroit to warn users when in area of high crime

- Constructed an adaptable heat map layering on top of Apple Maps to visualize crime density in a given area

- Routed functionality in the back-end to filter the crime data depending on the time specified by the user

**Mail Me Pizza / TLDR |** Express/Node.js

- Developed commands for MixMax - type “/pizza” in Gmail to simultaneously order pizza and email others about it

- Created a “/tldr” command, which when emailing out an article, gives a short 3-4 sentence summary to the recipient

- Utilized Express to create the API on the back-end, leveraging asynchronous callbacks for faster search suggestion

**Graphing Calculator in iOS |** Swift

- Familiarized myself with iOS development in Swift through Stanford’s CS193P (iPhone Application Dev.) course

- Implemented multiple views (split view, stack view), segues, and working MVC model for the iOS application

- Utilized UIKit and BezierPath frameworks to create interactive elements such as buttons, animations, and drawings

**Honors**

The Dean’s List – awarded to students who receive 3.5+ GPA in College of Engineering

University of Michigan Honors – awarded to high achieving U of M students with 14+ credits

National AP Scholar – awarded to students who receive 4 or 5 scores on 8+ AP tests June 2015, 2016

**Skills**

*Programming*: Experienced with C++, Java, Python, Swift, HTML, CSS, Javascript

*Tools & Libraries*: XCode, Vim, Git, jQuery, Angular 4, Spring Boot, Express, Node.js