

# ZHONGYANG LIU

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## EDUCATION

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**University of California, Los Angeles**

Expected: *Fall 2018*

B.S. Computer Science, B.S. Applied Mathematics, Major GPA: 3.99

- Selected CS courses: OOP & Data Structure, Algorithm Design, Operating Systems, Programming Languages
- Selected Math courses: Linear Algebra, Probability Theory, Optimization, Machine Learning, Stats Methods

## EXPERIENCE

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**Microsoft**

June 2018 - September 2018

*Software Engineer Intern*

*Redmond, WA*

- Built a prototype with Windows App Driver to automate the testing of desktop Office apps' WebView control.
- Fixed existing WebView tests and used polymorphism to greatly improve clarity and code reuse between IE and WebView tests. This is essential to determine how future Office web add-in test automation will be done.
- Contributed to URL Embedding with fastText. Reduced the cost of a single cosine-similarity nearest neighbor prediction from 11s to 0.15s. Deployed it on Azure with **flask** & Docker for easier and more secure access.

**Microsoft**

June 2017 - September 2017

*Software Engineer Intern*

*San Francisco, CA*

- Migrated MileIQ Zendesk app to its latest SDK. Parsed external data to help the customer support team quickly familiarize themselves with users' issues and try to retain them by prioritizing their tickets automatically.
- Used the **Extra-Tree** model to select features and predict user unsubcription rate, which improved *accuracy* on test data to 91%, a significant lift from 77% of the existing model.
- Used a 4-layer neural network to build an email classifier with CNTK where word counts and relative location are used as input. The trained model provides close to 90% *accuracy*, *precision* and *recall* on test data set.
- Hosted a client-server model where the client securely sends customer emails to a Docker-containerized Python **flask** server on Azure Web App and displays the server's prediction to customer support agents.

**Symantec**

April 2017 - June 2017

*Software Engineer Intern*

*Culver City, CA*

- Worked on Java server backend dealing with both frontend UI and Oracle SQL database.
- Increased *campaign name* size limit and implemented a new search option with an exact SQL query on *campaign IDs* to help the marketing team detail their campaigns and use their legacy ID search tools.
- Designed an API to exclude certain IDs from the database and filter results based on time of creation. It is the cornerstone for a new website that visualizes a chain of campaigns for the marketing team.

## PROJECTS

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**Simpleton Shell**

Winter 2017

- Light weight shell written in C that accepts commands, arguments and file flags, and prints out programs' output, exit status and arguments with much better user time performance than both **bash** and **dash**.
- Used **open**, **close**, **dup2** to operate on files with various flags; parsed arguments from input with **optind**; used **fork**, **execvp** to run a child process with the desired program and appropriate arguments; used **pipe** to redirect output of one program to another and **waitpid** to get a child's exit status and print it out to the terminal.
- Designed an algorithm to efficiently delete information about child processes after the parent prints out the children's exit status and arguments.

## SKILLS

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**Languages**

C/C++, Python, Javascript, Java, MATLAB / Octave, Shell Script

**Tools**

Git, UNIX/Linux, pandas, numpy, sklearn, CNTK, L<sup>A</sup>T<sub>E</sub>X, Jupyter, flask, GDB