

Mac Liu

Education

B.S. Computer Science, Iowa State University - *Summa Cum Laude*

Aug 2014 – Dec 2018

Honors: George Washington Carver Full-Tuition Scholarship, Dean's List 2014-2017

GPA: 3.94

Experience

Robinhood - *Software Engineer*

Jan 2019 – Present

- Designed and led the execution of the clearing brokerage's international UK expansion resulting in a revamped system with multi-affiliate trade clearing, accounting, order routing and NRA tax withholding support for all future international expansions.
- Designed and led the implementation of the new Cash Management Product's FDIC sweep system, which is an essential system that lets Robinhood provide its customers interest and FDIC insurance on their uninvested cash, increasing total assets under management by over 95%.
- Built a new accounting stream infrastructure, which introduced event partitioning/sharding, batched commits, and a dead letter queue, resulting in increased throughput, fault-tolerance, and horizontal scalability.
- Implemented and shipped a real-time tax backup withholding syncing system that reduced firm risk by reducing the number of cash mismatches across microservices by more than \$116,120.74 over 2876+ unique accounts and 11,298+ transactions.
- Revamped the existing option position reconciliation and maturity process to reduce firm risk by detecting anomalies.

Affirm - *Software Engineering Intern*

June 2018 – Aug 2018

- Implemented a new progressive user experience and user checkout flow as part of the Affirm Anywhere team.
- Improved testing infrastructure performance by 5x and refactored code to use dependency injection for more testability.
- Implemented analytics and built dashboards to track and analyze impressions across feature experiments.

Wealthfront - *Software Engineering Intern*

April 2018 – June 2018

- Implemented multiple end-to-end flows from scratch that launched as several new core Wealthfront experiences on iOS, such as windfall planning, clients' digest, re-authentication links, and securities owned by clients.
- Iterated on client feedback to build new UIs, APIs, and animations for the new account creation flow on iOS.

Shift Technologies - *Software Engineering Intern*

Jan 2018 – April 2018

- Developed an internal tool utilizing GoLang and PostgreSQL to automatically scrape, fetch, and price all auction vehicles from our target sources, which resulted in a ~91% increase in vehicle data collected and 1 hour saved for the auction team per day.
- Implemented and deployed a new inventory infrastructure to that allows Shift to scale their inventory needs across all regions.
- Created an internal tool to upload, decode, and price generic pilot vehicles in bulk.
- Built a full-stack dashboard with React.js, GoLang, and PostgreSQL to manage and update pricing & performance adjustments.

Google - *Software Engineering Intern*

May 2017 – Aug 2017

- Developed features for the Play Store app to drive additional downloads in related offerings, increasing Play Store ad revenue by \$2 million+ and downloads by 7.8%.
- Optimized the search metric infrastructure by reducing the number of logs by 50% and eliminating the search lookup's high failure rate due to inaccurate node parenting by providing accurate search event metadata lookup.

Google - *Software Engineering Intern*

May 2016 – Aug 2016

- Built the Today Extension widget for the Google News iOS app, providing quicker access to articles that are relevant to users.
- Created original design documents and worked extensively with the UX team to prototype the UI of the widget.
- Implemented analytics on the backend to collect user information to track usage of my feature.

Programming Languages & Technologies

Proficient with

Python
Java
GoLang
Swift/Objective-C

Familiar with

JavaScript
C/C++
HTML/CSS
C#/.NET

Technologies

Django/React /Node
PostgreSQL/SQL /MongoDB
Git
Xcode/Android Studio/IntelliJ