

# SHANGWAY CALVIN HSU

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## EXPERIENCE

### Intuit

**Software Engineer 2 - Payments Platform** | Java, Kotlin, Spring Boot, GraphQL, Kubernetes, AWS, SQL/MySQL

Mountain View, CA

July 2019 – Present

- Designed and developed a back-end feature to validate credit card information on Intuit's primary card and bank management system.
  - Researched, tested, and selected the most fitting validation platform provided by a partner card-provider company.
  - Integrated with an external platform to enable card verification for users during CRUD operations using Kotlin.
  - Designed and developed a Spring Boot CronJob that validates historical card information from the database (Oracle SQL) — This job ran as a Kubernetes CronJob.
  - Over 12 million cards are now validated which helped increase the approval rate of payment processing by 10%.
- Optimized cache warming on the payment scheduling service to scale-up due to increasing amount of customers.
  - Implemented support for the new MySQL database fields in the Java Spring Boot application on CRUD operations.
  - Updated SQL queries and added indexes to filter entries during cache warming.
  - Developed a MySQL database procedure to help populate new database fields so that entries can be filtered during cache warming.
  - Decreased application's local cache size by 50%, giving the application 2-3 extra years of increased performance while new clients onboard.

**Software Engineer 1 - Payments Platform** | Java, Spring Boot, GraphQL, Kubernetes, SQL, GoLang, SQL

Aug 2018 – July 2019

- Gained ownership of a bank account lookup service within the first 4 months of joining.
  - Designed a scheduled GoLang AWS-Lambda function to help cache banking information in AWS Redis, leading to 1.5x improvement in SLA performance.
  - Migrated this service to Intuit's Kubernetes Platform to remove manual deployment and testing. Engineers developing on this service can now take advantage of the platform's automatic deployment-pipeline, auto-scaling deployment, and support.
  - Parallelized lookup operations with GoRoutines, which further improved SLA performance by 1.25x.
- Built GraphQL APIs to help manage user payment data using Java, Spring Boot, DynamoDB, and Oracle SQL.

### Qualtrics

**Software Engineering Intern** | NodeJs, AngularJs, SQL, AWS S3

Seattle, WA

Jun 2017 – Sept 2017

- Developed a file upload feature for all file types within Qualtrics' Customer Experience Management product.
- Implemented RESTful API with AWS S3 and MySQL database to upload, retrieve, and delete files.
- Architected additional API endpoints and data tables to store file metadata before uploading to AWS S3.
- Integrated and tested features on the product's main page to be used by customers globally.

### SSL – Space Systems Loral

**Software Engineering Intern** | Python, Javascript, HTML, CSS

Palo Alto, CA

Jun 2016 – Sept 2016

- Designed an internal RESTful Web Server using various Python frameworks, including Flask and Tornado, resulting in the distribution of satellite telemetry to other programmers.
- Implemented real-time data streaming with WebSockets on both server and client sides.
- Created front-end web interfaces using Javascript/CSS/HTML to generate queries and plot historical and streaming data.

## SKILLS

**Technologies:** Spring Boot, AWS, REST, Web Development, Kubernetes, MySql, Oracle SQL, NoSQL, Linux/Unix, Github

**Languages:** Java, Kotlin, Python, GoLang, SQL

## PROJECTS

**Chorus, Chore Management Web App - <http://chore-us.herokuapp.com>** | NodeJs, ExpressJs, MongoDB

Jan 2017

- Developed using NodeJs paired with ExpressJs framework and MongoDB/MLab as database.
- Implemented REST server to allow front-end application to retrieve, add, edit, and delete user, chore, and group data.
- Implemented front-end with Google's Material Design and created responsive behavior using jQuery.

**Free & For Sale 3.0 Web App** | Typescript, Angular 2, NodeJs, Ionic 2

Oct 2016

- Developed using Angular 2 TypeScript framework paired with Ionic 2 and Firebase as the database.
- Created the front-end interface including the item-listing details, inbox/messages, home-page item displays.
- Implemented middle-layer services that communicated with the database for posting listings, updating ratings, updating bids, managing purchases, and sending out notifications.

## EDUCATION

**University of California, San Diego**

B.S. Computer Science, Minor - Cognitive Science

Class of 2018, Magna cum laude

Cumulative GPA: 3.72 - Major GPA: 3.82