

# Chengzhu Duan

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## EDUCATION

### University of California, San Diego

Computer Science, B.S.

GPA: 3.80 / 4.00 (Cum Laude)

La Jolla, CA

Sept. 2017 – Mar. 2021

## WORK EXPERIENCE

### Coinbase

Software Engineer

San Francisco, CA

Apr. 2021 – Present

- Integrated third party exchange APIs to increase liquidity options for institutional clients using **Coinbase Prime**, generated **\$87B+** in total trading volume
- Built scalable and fault-tolerant services to reliably place, track, and recover **10K+ orders per second** with **data sharding** and **failover redundancy** techniques implemented in **Go**
- Designed and scaled the market data service to deliver high fidelity price book for **500+** trading pairs within **30ms** of latency
- Scoped and implemented reusable and extensible framework for novel work to increase **developer productivity** and **code maintainability**

### Coinbase

Software Engineer Intern

San Francisco, CA

Jun. 2020 – Sept. 2020

- Streamlined an in-app invoice workflow for **Coinbase Prime** that saved finance and operation team **40** hours of phone call per week, claimed back **\$350K** unpaid invoice, and provided **800+** Custody Organizations with timely invoices
- Built scalable backend automatic billing service, invoice service and email notification service with **Ruby on Rails**
- Ensured fast UI load time with proper frontend caching through **Rest Hooks** and **SWR**
- Automated Custody invoice PDF generation and storage in **AWS S3** with the use of **Rails ERB template** and **Puppeteer**

### Omniscience Corporation

Software Engineer Intern


Palo Alto, CA


Jul. 2019 – Sept. 2019

- Expedited image resizing and uploading to **AWS S3** by using **Thumbnailator** to reduce **30%** thumbnail load time
- Constructed a scalable **RESTful Flask** app with **Swagger Codegen** and **SQLAlchemy** for reliable underwriting automation
- Implemented document uploading, sharing, editing, and labeling across multiple online platforms with **Angular**, **Spring Boot**, and **AWS S3** for thousands of underwriters from large insurance companies (e.g. **RGA Insurance**, **AIA Group**)

## PROJECTS

### Swag-Bot

 Node.js, Mongoose, MySQL

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Jul. 2018 – Jun. 2019

- Established a point/coin system for **15** Discord servers with **500+** users by combining usages of both **MySQL** and **MongoDB**
- Created **77** commands capable of manipulating texts and images and visualizing data and statistics through third-party APIs
- Designed a **Music Task Scheduler** on top of Discord's audio stream in voice channels with YouTube API and **Node.js**
- Implemented an **Anti-Spam Filter** to prohibit members from spamming, cursing, and other inappropriate conducts in channels

### Building Sensor Data Search Engine


 Angular, Flask, Node.js, MySQL, Pytorch, Docker, C++, RPC


 **ACM BuildSys'21 Paper**

Jan. 2020 – Nov. 2021

- Coupled **Angular** components with **Plotly** to display interactive visualizations for terabytes of IoT time-series data
- Engineered query evaluation with **Sliding Window Feature Extraction** and **Locality-Sensitive Hashing** of metadata
- Implemented an efficient time-series query matching pipeline that utilizes a heuristic **Dynamic Time Warping** algorithm to search across **20 Million** data points in less than **3 seconds**

### Your Clear Way Mobile App

 AWS AppSync/Amplify/Lambda/DynamoDB, Node.js, GraphQL, React Native, Expo

 Non-profit Work

Jan. 2021 – Mar. 2022

- Led a team of **7** developers to mobile app that homeowners can use to show progress on making their home more eco-friendly and achieving different levels based on the significance and number of upgrades they make
- Architected the point and badge system with **AWS Amplify** stack that utilizes various AWS technologies for GraphQL data layer, user authentication, serverless backend logic, and persistent data storage
- Worked as a cross-functional **Project Manager** with non-profit stakeholders and UX designers to scope out the requirements and timeline of the project

## SKILLS

**Programming & Markup Languages:**

Go, Python, Javascript/Typescript, Java, C/C++, Ruby, HTML/CSS, LaTeX

**Frameworks & Libraries:**

Kafka, gRPC, AWS, Node.js, Django, Flask, Ruby on Rails, Pytorch, React, Angular

**Databases:**

MySQL, PostgreSQL, MongoDB, DynamoDB, Firebase

**Tools & Methodologies:**

Unix/Linux, Git, CI/CD, Agile Methodology, Design Patterns

**Extracurriculars:**

Project Manager @ Triton Software Engineering, Member @ Tau Beta Pi Engineering Honor Society