

Alan Zhang

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EDUCATION

University of California, Berkeley

May 2025

B.S. Electrical Engineering & Computer Sciences (EECS)

GPA: 3.8

Relevant Coursework: Efficient Algorithms, Database Systems, Introduction to Artificial Intelligence, Introduction to Machine Learning, Data Structures, Machine Structures, Computer Programs, Principles and Techniques of Data Science, Designing Information Devices I/II

Organizations: V.P of Valley Consulting Group (VCG), Tau Beta Pi, Eta Kappa Nu (HKN), V.P of Poker Club, Ski Club

TECHNICAL SKILLS

Languages: Java, Python, Ruby/Rails, C/ C++, Scala, SQL, HTML, CSS, JavaScript, Typescript, Assembly, RISC-V, Shell Script

Libraries/Tools: React, AWS, Docker, MongoDB, GraphQL, BigQuery, Kafka, Airflow, Kubernetes, Datadog, Splunk, Pandas, Git

Other: Agile Methodologies (Scrum, Kanban), CI/CD, OWASP Top 10, Extract Transform Load (ETL), Jira/Confluence, Risk Domain

PROFESSIONAL EXPERIENCE

Gusto | *Software Engineering Intern*

New York, New York | May 2024 – Aug 2024

- Crafted a React UI for a company approval tool, centralizing Risk OPs data into an analytical interface for efficient decision-making
- **Migrated 34/36** fraud metrics from a standalone service, requiring an entirely **new dynamic architecture** and multiple data migrations
- Decoupled risk ML models from the service, boosting **model iteration speed by 75%**, enabling faster updates and experimentation
- Fully integrated **100,000+ entries of consortium data** on fraudulent companies from an external API through backfills and a daily job

Tesla | *Software Engineering Intern*

Palo Alto, California | Jan 2024 – May 2024

- Engineered dynamic web page generation tool to visually represent test coverage trends, optimizing firmware release analysis by 17%
- Streamlined test info retrieval by migrating SQLite to a scalable **MongoDB** architecture with **Kubernetes**, **reducing query times by 83%**
- Spearheaded CyberTruck HVAC testing and fleet-wide validation using **Ruby** and **Splunk**, achieving **97% reliability post release**

Intuit, Credit Karma | *Data Engineering Intern*

Charlotte, North Carolina | May 2023 – Aug 2023

- Developed an automatically generated configuration file system for secure management of **ETL workflows** in the cloud environment
- Integrated a SQL anti-pattern recognition tool that detected and provided recommendations for **2000+ queries in BigQuery**
- Migrated storage of BQ plugin conf. files from **GCS to Google Datastore**, improving query and search performance by **over 62%**

Tyler Technologies | *Software Engineering Intern*

Denver, Colorado | May 2022 – Feb 2023

- Centralized trusting of SSL certificates through a supplemental trust program that reduced **deployment time by a total of 32%**
- Introduced and implemented **PDFTron SDK** to allow Tyler's integrators to efficiently view and manage government documents
- Integrated and documented a REST-based API for a product used to access key user data for the Content Strategy team

Starbucks | *Technical Consultant*

Berkeley, California | Aug 2022 – Dec 2022

- Utilized researched components about **Metaverse and Web3 offerings** to improve end-to-end visibility for the Starbucks team
- Resolved technical and software difficulties when implementing **Polygon blockchain technology** into their Star Rewards programs

PROJECTS

Investment Leverage | *Python, Pandas, SciPy*

- Analyzed the risk-return profiles for multiple leverage strategies across 250+ years of US stock market data using **Python** and **Pandas**
- Enhanced glide path function **optimization with L-BFGS-B**, experimenting with sigmoid, piecewise, and polynomial models

Media Post | *Python, SQLite*

- Developed an **automated content posting pipeline** for instagram/tiktok, using a randomized Cron schedule to optimize engagement
- Designed and integrated a SQLite3 and Pickle-based storage solution, streamlining the retrieval and management of video content data

Mock Cryptocurrency Trading Website | *Angular, Firestore*

- Developed a secure website utilizing Angular, allowing users to engage in trading of cryptocurrencies without risking their actual funds
- Integrated **Coinbase REST API** to access real-time cryptocurrency information, including prices, trade orders, and interactive graphs
- Utilized **Firestore, a NoSQL document database** to securely store and manage user information ensuring efficient data retrieval