

Yuanchen Meng

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EDUCATION

University of California, Santa Barbara

Expected Graduation: June 2025

Bachelor of Science (B.S.) in **Computer Science**

GPA: 3.8

WORK EXPERIENCE

Connectbase

Jun 2024 – Aug 2024

Software Engineer Intern

Westborough, MA

- Integrated **Redis** as a caching layer using the cache-aside strategy to store office buildings and user locations, optimizing data retrieval for a location intelligence application. Employed **Kafka** for seamless synchronization of data consistency between the **MySQL** database and Redis cache.
- Implemented structured logging across applications with **Datadog**, improving reliability and reducing troubleshooting time by 80%. Configured Datadog to trigger alarms based on predefined criteria, with notifications sent to Slack.
- Enhanced **MySQL** query performance for a Geographic Information System (GIS) by applying **indexing** and backend **C++** code optimizations, reducing execution time by 50% with the help of MySQL **Optimizer Trace**.
- Leveraged **HashiCorp Vault** to manage environment variables across multiple **Azure** containerized applications, enabling dynamic variable loading and enhancing the security of sensitive data.

Y STEM and Chess Inc

Apr 2024 – Jun 2024

Junior Software Engineer

Goleta, CA

- Developed a prediction model for user chess moves on a chessboard, leveraging a combination of **decision trees** and **deep neural networks** (DNN) using Python's **scikit-learn** and **TensorFlow** frameworks. Achieved an 80% improvement in prediction accuracy across various difficulty levels.
- Led the integration of a user chat feature powered by **OpenAI's API** into a **Django** backend, enabling **generative AI**-driven interactions that significantly enhanced user engagement and satisfaction.
- Crafted an intuitive Q&A interface using **Angular** and **Material UI**, driving a better visually appealing user experience.

Aptitude Medical Systems

Oct 2023 – Mar 2024

Software Engineer Intern

Goleta, CA

- Spearheaded the development of **RESTful API** endpoints using **Node.js** and **TypeScript** to process gene files in JSON and FASTA formats, enabling efficient data export in CSV format, with security protocols implemented via JSON Web Token (**JWT**) and **Firebase** authentication.
- Implemented **data visualization** of testing results along with primer sequence comparisons through **D3.js** and **Plotly.js** in **React**, resulting in a notable 40% increase in data-driven decision-making capabilities.
- Streamlined the **CI/CD** pipeline by automating build and testing across multiple environments with **Jenkins**.
- Worked on an **Agile** team with **Jira** Kanban, standups, sprints, and retrospectives to improve and team productivity.

PROJECTS

Cloud Storage Qt Application

- Built **TCP Socket** and TCP Client in **C++ Qt** with an integrated **PostgreSQL** database to manage user information.
- Utilized **QDir** and **QFile** to emulate a **Linux file system** within the application. This includes functionalities for directory navigation, file deletion, and file movement, providing a seamless cloud storage experience.
- Implemented **multi-threading** in conjunction with timers to optimize the performance of file uploads and downloads, ensuring smooth and responsive user interactions.

High-Performance Student Service System

- Deployed **distributed MySQL** clusters with **leader-follower** replication and database **sharding** and partition by Sharding-JDBC to handle requests in **high-concurrency** scenarios for retrieving student records.
- Enhanced search functionality by integrating **Elasticsearch** and **Kibana** dashboards, implementing fuzzy search capabilities for complex contexts, reducing 40% query latency compared with MySQL.
- Integrated **Spring Cloud Gateway** as an application router and utilized **Zookeeper** for student service registration in **Spring Cloud**, ensuring effective microservices management.

SKILLS

- **Languages:** C/C++, Python, Java, JavaScript, TypeScript, Golang, Ruby, HTML/CSS, C#, x86
- **Technologies:** Git, Linux, AWS, GCP, PostgreSQL, MongoDB, REST API, Redis, Kafka, Datadog, Docker, K8s, Jira
- **Frameworks:** React, Angular, Spring Boot, Apache Struts, Node.js, Django, Ruby on Rails, Firebase, .NET