

Quanyong Bi

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Education

University of Southern California (USC), GPA: 3.8/4.0

Los Angeles, CA

Master of Science in Computer Science

Jan 2025 – May 2026

Bachelor of Science in Computer Science and Business

Aug 2020 – Dec 2024

- **Relevant Coursework:** Computer System, Machine Learning, Data Structures, Database Design, Algorithms, Mobile Development, Computer Security, Software Development, Discrete Mathematics.

Experiences

OinAuto

Irvine, CA

Software Engineer Intern

May 2024 – Aug 2024

- Migrated the management system and website from a static PHP setup to a dynamic **Django + React + Nginx** framework, improving page load times by **40%**, reducing API response time by **25%**, significantly enhancing performance and scalability.
- Designed and implemented the re-architecture of a **MySQL** database with over **100,000** entries, optimizing table structures and relationships to support the new recommendation features, reducing query response time by **30%**.
- Contributed to the cloud deployment of backend services using AWS, including **EC2** for hosting, **RDS** for database management, **S3** for storing static assets and **Lambda** to automate serverless tasks. Improved system scalability and storage efficiency, reducing load times by **20%** and optimizing resource costs by **10%**.
- Led the development of API endpoints by **Python** for a posts recommendation feature, conducting comprehensive unit tests with **80%** coverage rate and automating the deployment process through AWS CodePipeline. Resulting in a **20%** reduction in post-release defects and enhanced system reliability.

Hotland LLC

Los Angeles, CA

Mobile Engineer Intern

Jan 2023 – May 2023

- Worked on development of a cross-platform mobile VPN management application based on the V2Ray platform, securing traffic with **VMess** protocols and Distributed traffic across servers in different regions through **Google Cloud DNS**, improving connection stability by at least **30%**.
- Collaborated with a UI/UX designer to design and implement key pages of application (home, config, purchase) using **Flutter**, conducting widget tests, driving a **150%** increase in daily active users within three months post-launch by enhancing app usability.
- Integrated third-party payment processing with Stripe, implementing secure APIs for transaction handling, and ensuring compliance with PCI-DSS standards. Ensured a **95%+** transaction success rate.
- Utilized **Docker** for containerization and **GitHub Actions** for automated deployment, improving development workflow efficiency.

Projects

Austin | A message distribution and management platform

Jul 2024 – Sep 2024

- Developed a Message Distribution platform using **Spring Boot**. Enable users to send and manage message batches through various platform including emails, SMS, slack and other social accounts.
- Increased data handling efficiency by at least **40%** and ensured a **99.9%** message delivery success rate by architecting a **Kafka**-based request handling system.
- Optimized request performance during peak hours and reduced costs in off-peak hours by developing dynamically configurable thread pools with **Apollo**, adapting to industrial workload variations, and enhancing system responsiveness.
- Minimized duplicate message deliveries by engineering advanced deduplication logic using **Redis**, which included designing content and frequency-based deduplication strategies for real-time processing.

SiKi | A Kitchen Inventory Management + Receipt generation application

Dec 2023 – Mar 2024

- Developed a cross-platform application using Django and **Flutter**, enhancing system performance and improving AI-powered recommendations for inventory management and receipt generation.
- Architected and optimized a **MongoDB** database supporting 10,000+ mock records, ensuring a **< 1ms** latency for communication between server and database, which allowed for efficient inventory synchronization.
- Integrated **Elasticsearch** to improve search capabilities, reducing query times by **50%** for item and recipe searches and recommendations.

Skills

- **Programming Languages:** Python, Java, Kotlin, C++, Swift, JavaScript, Node.js, TypeScript, Ruby.
- **Tools and Frameworks:** Spring Boot, Django, Flutter, C++, Flask, Redis, PyTorch, React, Node.js, Git, Jetpack Compose, MySQL, MongoDB, GitHub, PostgreSQL, AWS, Google Cloud, Elasticsearch, Android Studio, Docker, Html, CSS.