HONGJIN QUAN

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EDUCATION

Cornell Tech (Cornell University), New York — Aug 2023 - May 2025
Jacobs Technion-Cornell Dual Master of Science Degrees – Information Technology | Merit Scholarship
Courses: Data Structure and Algorithm, Networks and Distributed Systems, HCI Design, Applied Machine Learning

Technion - Israel Institute of Technology — Aug 2019 - July 2023
Bachelor of Science in Chemical Engineering | GPA: 3.8

TECHNICAL SKILLS

Coding Languages:	Golang, Python, Java, JavaScript, TypeScript, HTML/CSS, MySQL
Operating Systems:	Windows, UNIX, Linux
Other Tools:	React.js, Next.js, Node.js, Express.js, Redis, Docker AWS, MongoDB, MySQL, PostgreSQL, Git, Jira, Figma, Agile

EXPERIENCE

Weill Cornell Medicine | **Software Development Researcher** — New York, Dec 2023 - Present

- Spearheaded the development of "Attuned," a pioneering iOS application tailored for the LGBTQ+ community, facilitating voice training lessons. Employed **Agile Scrum** methodologies and **Jira** for project management, showcasing proficiency in adapting and implementing efficient workflows.
- Adopting the **MVC** software architecture and using **React Native** to develop the iOS frontend framework.
- Architected a high-performance backend infrastructure utilizing **Node.js and Express.js**, designed for scalability and rapid response times, ensuring a seamless user experience by supporting high volumes of concurrent users.
- Devised and implemented a sophisticated **MongoDB** schema to meticulously manage user profiles, track lesson progress, and provide tailored feedback.
- Enhanced data retrieval speeds and system efficiency by integrating **Redis**, optimizing the application's performance through rapid access to user data.
- Innovated by integrating bespoke **Python** machine learning algorithms within the app's backend, enabling the AI categorization of user voices, and pioneering a new standard in personalized voice training technology.

Scholarship Auditions | **Full Stack Development Intern** — Remote, Sep 2023 - Dec 2023

- Led the development of the "AmericanBandDad" website from scratch, a platform designed to seamlessly integrate a quiz app, two web games, and music podcasts for American Dads.
- Built the website's front-end using **React** for Parallax Homepage, interactive Quiz App, webpage Games, and Newsletter Signup Form.
- Leveraged multiple **RESTful APIs** to fetch data for quiz questions and podcast resources and used **Redux** to update user information and quiz scores.
- Built **PostgreSQL** database with podcast, music, and score tables then participated in deploying it via **AWS RDS.**

PROJECT

GoLightCache| **A Golang HTTP-based distributed caching system.**

- Implemented the **LRU and LFU** algorithms to optimize cache storage by automatically discarding the least accessed items, enhancing system performance and resource utilization.
- Engineered **gRPC-based** distributed cache to enable multiple nodes to work together, improving system scalability and fault tolerance.
- Applied **Consistent Hashing** for node selection within the distributed system, ensuring effective load balancing and improving scalability and fault tolerance.
- Integrated **Protocol Buffers (protobuf)** for node communication, optimizing binary data exchange to reduce latency and bandwidth usage, resulting in faster response times and improved overall efficiency.
- Utilized **etcd** for service registration and discovery, enabling nodes to automatically discover each other and work together.

Account App | **A Golang full-stack demo app for user authentication and file management.**

- Built a robust backend using **Golang**, arranged application logic including advanced user authentication mechanisms, efficient data processing, and seamless communication with the database, ensuring the operation's security and reliability.
- Adopted **PostgreSQL** for complex data storage solutions, effectively managing user information, roles, and permissions, laying the foundation for a secure and organized system architecture, and implemented user **JWT** caching using **Redis.**
- Containerized the application with **Docker** to promote consistency across development, testing, and production environments, simplifying the deployment process and enhancing the application's portability, using **Google Cloud** for file uploading and cloud storage.
- Conducted thorough unit testing of the backend API using Golang's **Testify** package, prioritizing reliability, and functionality through comprehensive test coverage.
- Developed a dynamic user interface using **Vue/Gin**, providing an intuitive and responsive design, enhancing user interaction with the application, and demonstrating a commitment to creating user-centered solutions.