Yue (Elsie) Wu

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EDUCATION

University of California San Diego	San Diego, CA
Master of Science in Computer Science	*Sept. 2024 – Jun. 2026*
New York University	New York, NY
Bachelor of Arts in Computer Science — GPA: 3.72	*Sept. 2020 – May 2024*

WORK EXPERIENCE

GYFR — Chicago, IL
Software Engineer Intern — *Jun. 2024 – Aug. 2024*

- Designed and implemented **RESTful APIs** using **Node.js** and **Firestore**, managing user profiles, training sessions, and secure payment processing with Stripe. Ensured real-time data synchronization with Firebase.
- Created responsive user interfaces with **TypeScript** and **React.js**, building reusable UI components and translating complex designs into functional web applications.
- Developed and executed unit and integration tests for both frontend and backend components. Optimized performance through troubleshooting and managed deployments with modern **CI/CD pipelines**.
- Contributed to daily scrums, code reviews, and team meetings. Collaborated effectively with UI/UX designers and team members, documenting and maintaining software functionality.

JD.com, Inc — Shanghai, China
Software Engineer Intern — *Jun. 2023 – Aug. 2023*

- Designed and developed data visualization modules for logistic warehouses used by 20+ internal teams, focusing on generating charts and connections as a BI tools, utilizing **Spring Boot** and **Vue.js**.
- Designed and implemented **RESTful APIs**, mapping HTTP methods for efficient and reusable routes, with CRUD actions on **MySQL** using **Spring Boot**.
- Designed and implemented efficient data model and operations using **MySQL** for user info, chart info, and parameters, and optimized the data retrieval with indexing and connection pool.
- Collaborated with UI designers to implement interfaces including input control and navigational components for chart displays, and data-driven search lists feature with **Vue.js**, enabling decision making with this tool.

PROJECTS

Bank Application | *Kubernetes, PostgreSQL, Golang, gRPC, Redis* — May 2024 – Jul. 2024

- Designed and developed a **Golang-based** bank web service, tailored for operating the **Gin** framework, facilitating account management, real-time balance monitoring, and secure money transfers.
- Developed **gRPC API** with Go for CRUD operations on **PostgreSQL** and implemented protobuf for defining service interfaces. Designed asynchronous processing in Golang using background workers and **Redis** as its message queue.
- Designed and created data schemas with ER diagrams. Optimized **PostgreSQL** queries with rollback functionality to ensure atomic transactions.
- Enhanced the web application's 2FA by implementing an SMS one-time-password authentication with PASETO.
- Built a **CI/CD** pipeline using **GitHub Actions** to automate the testing process. Containerized the application with **Docker**, and utilized **AWS EKS (Kubernetes)** for seamless deployment on **AWS EC2** instances.

WuniChat - Real-Time Chat Application | *Express.js, Node.js, Socket.IO, JavaScript* — Mar. 2024 – Apr. 2024

- Developed a real-time chat application with individual and group chat features using **Node.js**, **Express.js**, and **Socket.IO**, enabling users to join and communicate in specific chat rooms.
- Engineered the real-time chat feature using **Socket.IO**, facilitating instant message exchanges among users while minimizing message delivery latency.
- Implemented **TCP** and **UDP** protocols for robust network communication, applied **AIMD** control algorithm to manage network congestion effectively, utilized the Link State Algorithm to determine optimal routing paths.

Face Recognition Web Application | *React.js, PostgreSQL, Express.js, Node.js* — Sept. 2023 – Dec. 2023

- Designed and developed a web application capable of recognizing faces in user-uploaded images with integrated AI using **React** and **Node.js**.
- Implemented **RESTful API** using **Node.js** and integrated with **PostgreSQL** to handle CRUD operations.
- Implemented **JWT**-based user authentication and secured validation for client-submitted data, and addressed password encryption for user registration under **Node.js**.
- Utilized **React Hooks** to manage component state and lifecycle in functional components; optimized rendering performance with **useCallback**, reducing response time by 8%.
- Achieved face recognition through images sourced by integrating Clarifai face-detection API and utilized **JavaScript** to implement dynamic client-side pages with reusable components.

TECHNICAL SKILLS

Programming Languages: Java, Python, C/C++, TypeScript, JavaScript, HTML, CSS, Golang, SQL
Frameworks: Spring Cloud, React, Node.js, Next.js, Django, Vue.js, Express, Flask
Technologies: PostgreSQL, Redis, MongoDB, MySQL, AWS, Git, Kubernetes