Huizhirong (Jason) Guo

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EDUCATION

Northeastern University | MSCS | GPA:4.0/4.0   *Sep 2024 - Dec 2026 (Expected)*
Santa Clara University | BS | Computer Science and Mathematics   *Sep 2020 - Jun 2024*

WORK EXPERIENCES

Next Play Games Inc. (start up)   Remote
Software Engineer Intern   *Sep 2025 - Dec 2025*

- Architected full-stack application with Supabase database (RLS policies and proper schema design), Stripe payment integration with automated webhook processing and PCI compliance, and Cloudflare Pages deployment with edge function routing for global performance optimization **ensuring secure payment flows**.
- Built B2B coach dashboard using React, TypeScript, and Vite enabling team management, individual progress monitoring, and real-time performance analytics with live data synchronization across web and mobile platforms.
- Built cross-platform mobile app with React Native, optimizing component rendering to eliminate redundant re-renders and improving Supabase data fetching performance through query optimization and caching strategies.
- Architected AI-powered coaching features using OpenAI API including automated lesson generation and interactive chatbot. Designed Supabase Edge Functions with automated fine-tuning pipeline retraining GPT-4o mini models weekly or at 50 conversations, utilizing database Views and RLS policies for real-time synchronization.

Beijing Gesafe WEALTH Advisory Co., Ltd.   Beijing, China
Backend Engineer Intern   *Jun 2025 - Aug 2025*

- Built RESTful APIs with Flask and MongoDB, implementing pagination and query optimization for sub-200ms response times across core business endpoints while handling complex aggregation pipelines for financial data.
- Extended MongoDB schema design to support new feature requirements and data structures while maintaining backward compatibility with existing codebase, ensuring zero disruption to production services.
- Tested and validated API endpoints using Postman for debugging, documentation, and regression testing, collaborating closely with frontend developers and QA team to ensure seamless integration and functionality.
- Participated in daily stand-ups, sprint planning, and code reviews within Kubernetes Pod deployment environments.

PROJECTS

Travel Agent Booking System — Electron, Prisma, SQLite   [Github Repo]

- Built full-stack desktop application to automate travel agency payment tracking, reducing financial settlement time from **5+ minutes** (manual Excel calculations) to instant calculations and multi-company settlement reports.
- Architected custom database migration system with version-controlled SQL schemas, automatic backup/rollback, and Windows file lock handling, eliminating manual data export/import cycles and update-related support requests to zero.
- Implemented secure Electron IPC architecture for renderer-main communication, with Prisma ORM managing hierarchical data models (Category → Customer → Transaction → OrderItem) and Excel file export for data portability.

Go ChatRoom — Go, Gin, Redis, WebRTC   [Github Repo]

- Built concurrent WebSocket hub with Go channels and mutex locks, **handling 1000+ connections** with buffered channels.
- Designed dual-session architecture for bidirectional sync, enabling real-time delivery and read status tracking per user.
- Implemented Redis for session and online status management, reducing database queries **by 60%**.
- Developed P2P WebRTC calling with custom signaling server, cutting bandwidth costs **by 90%** vs centralized streaming.

FlowBoard — Angular, C#, .NET, SignalR, Azure   [Github Repo]

- Developed real-time team collaboration platform addressing inefficiencies in asynchronous kanban tools, enabling instant multi-user synchronization with integrated AI assistant and collaborative whiteboard for system design discussions.
- Implemented SignalR WebSocket with CQRS/MediatR and optimistic concurrency control (ROWVERSION) for 50+ concurrent users, utilizing message batching and .NET Channels to prevent race conditions and message storms.
- Integrated Azure OpenAI via Semantic Kernel for natural language task creation and Excalidraw for real-time collaborative diagramming with operational transformation, enabling seamless team communication during design sessions.

SKILLS

Languages: Python**,** JavaScript/TypeScript**,** C#, Go
Frameworks: React/React Native, Vite, Next.js, Flask, Django, Electron, Gin
Databases: PostgreSQL, MySQL, MongoDB, SQLite, Redis
Tools & DevOps: Git , Supabase, Docker, Kubernetes, AWS, Azure,, Kafka