

# Haoji (Paul) Bian

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## EDUCATION

### University of Wisconsin-Madison

Madison, WI

- Bachelor of Science in Computer Science & Data Science
- GPA: 3.96 / 4.00 (top 2%), Dean's List for 5 Semesters, Summa Cum Laude

Jan 2021 - Dec 2023

## PROFESSIONAL EXPERIENCES

### Katfun LLC

Chicago, IL

Full Stack Software Engineer | Project Manager

March 2023 – Present

- Build and develop "**Katfun.com**", a platform dedicated to enhancing the experience for the pet community
- Design the application using **MERN** and **RESTful** with the **MVC** pattern. Deploy on **AWS EC2** proxied by **Nginx**
- Use **Cache-Aside** Strategy along with **Redis** and **MongoDB** cloud database to guarantee the consistency of user data, reduce the bottleneck of direct disk IO access, and improve data throughput by up to 5 times
- Use **Cloudflare CDN** proxy with **AWS S3** to solve the problem of insufficient network bandwidth when thousands of users access massive media resources at the same time. Boost user-end resource loading time by 70%
- Sort users and entities by geographic distance order using **PostgreSQL**, and map them on **Google Map API**
- Construct a recommendation system through **OpenAI embedding** model and **MongoDB vector search**
- Manage the entire project lifecycle, from conceptualization to deployment, to ensure timely delivery and quality assurance, updating 10+ production versions in **Agile** practice using **Git**, **Scrum** and **Jira** as a Project Manager

### One Community Global

San Gabriel, CA

Full Stack Software Developer | Assistant Manager

Aug 2023 – June 2024

- Implement a hierarchical permission system within a SaaS software, and handle user authentication with **RESTful API**, **Express.js** & **MongoDB**, allowing for role-based access control with fine-grained permissions
- Use **Kafka** to consume up to **10,000 QPS** with an asynchronous operation approach at peak times
- Design **Redis** distributed locks to ensure data consistency under a large number of concurrent modifications
- Improve user interaction and experience and smooth interaction by introducing **debouncing** and **throttle** in **React** and **JavaScript**, reducing unnecessary repetitive API requests and user missteps by 80%
- Deploy a self-built **SMTP** email server to replace Gmail for automated delivering work progress notifications
- Develop a real-time project management system using **WebSocket (WSS)** for efficient team collaboration

### Epic (Capstone)

Madison, WI

Data Engineer & Backend Developer

Jan 2023 - May 2023

- Created a **vector searching database** on **MongoDB** for managing medical-related data, cases, and doctor notes with an **Embedding** model, and AI explanations to improve users' efficiency in finding and understanding cases
- Fine-tuned and trained an **OpenAI** model on **Azure API**, enabling agents to use a more professional tone of voice
- Streamed AI responses using **Flask** on **Python** with **WebSocket** and the **Server-Sent Event (SSE)** protocol, providing users with a natural and smooth AI communication experience and enhanced user satisfaction

### Hikvision Co., Ltd

Remote

Embedded Software Development Intern

Sep 2020 - Jan 2021

- Designed a video encoding feature for a Dashboard Camera using **C** on a **Linux system**, enabling the uploading of over 50GB of videos per day to servers via **REST** protocol, improving server efficiency by 30%
- Created Python test scripts for automatic debug log generation, accelerated issue identification by 25%, enhanced debugging efficiency by 30%, and reported 7 potential logical bugs in software source code
- Implemented a driver in C utilized **Linux kernel** module programming and **TCP/IP** network, facilitating direct Wi-Fi connectivity between users' mobile phones and cameras, enabling users to view and stream live video

## PROJECT EXPERIENCES

### Web Development for Cattery | Java, Vue, Spring Boot, MySQL, Restful API, OAuth2

Minneapolis, MN

Full Stack Web Developer

April 2023 - Nov 2023

- Adapt **Spring Boot** & **Spring Security** with **OAuth2** third-party auth (Google, Apple) incorporating **Stripe** API and encryption protocols, strengthen applications against threats during payment transactions, with zero vulnerability
- With **Vue.js**, and strategic application of **search engine optimization** best practices and optimized user interface layouts, the platform improved search engine rankings in key product categories by 40%

## SKILLS

- Programming Languages:** C/C++, Java, SQL, R, Python, TypeScript, JavaScript, CSS, HTML, C#, PHP
- Software Development:** Vue, Flask, Express.js, React, Node.js, Spring Boot, Nginx, REST, Kafka, OAuth2, MySQL, NoSQL, MongoDB, Pandas, Spark, MapReduce, Redis, PostgreSQL, K8s, Postman
- Platform:** Windows, UNIX, Linux, GCP, AWS, Azure, SVN, Git, Docker, Agile, Scrum, Kanban, Jira, CI/CD