Bowang Lan

Software Engineer | Full-Stack Developer

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EDUCATION

University of Washington — *Bachelor of Science* Sep 2020 - June 2024

- Major: Astronomy
- CS-Related Classes: Computer Programming II (Java), Data Structures and Algorithms (Java), Interaction Programming (Java & Android)

SKILLS

- Programming languages: Python, JavaScript, TypeScript, Java, HTML, CSS, C, C++, R, SQL, Bash
- Frameworks & Libraries: React, Next.js, Remix, Astro, Framer Motion, Prisma, Express.js, FastAPI, Django, Celery, RabbitMQ, PyQt, Pandas, Numpy, Matplotlib, Seaborn
- Database: MySQL, PostreSQL, MongoDB, Redis, Elastic Search
- Dev Tools: AWS, Docker, Vim, Neovim

EXPERIENCE

UWClassmate - Team Leader & Full-Stack Developer Sep 2022 - PRESENT

- Rebuilt the UWClassmate website using Next.js, TailwindCSS and Prisma, resulting in a more user-friendly and responsive design and increased page loading speed by 50%
- Enhanced website security and UX by refining the authentication system, resulting in a 50% decrease in unauthorized access attempts and a 15% increase in user registrations.
- Optimized the website's API and database schema using best practices in the industry, improving the data integrity and query performance of the website leading to a 35% improvement in data query performance
- Led a team of around 10 individuals, ensuring successful project completion, enhancing team collaboration, and promoting professional growth
- Authored comprehensive API documentation, streamlining developer onboarding by 40% and reducing backend-related queries by 60%

LEAPS - Full-Stack Developer July 2023 - Present

- Engineered a robust backend authentication system using AWS Cognito, enhancing platform security and reducing unauthorized access attempts by 80%
- Spearheaded the integration with Agora for live streaming, resulting in a 50% increase in user engagement and real-time interactions
- Designed a comprehensive database schema tailored for live streaming, optimizing data retrieval times by 40%

HeliolinC Investigation - Researcher June 2023 - Sept 2022

- Produced a comprehensive simulation dataset of astronomical objects utilizing Python, numpy, pandas, astropy, and destnosim
- Established an efficient pipeline for evaluating the completeness function of the HelioLinc algorithm, resulting in a 80% reduction in testing time

University of Washington - Research Assistant June 2022 - July 2022

- Engineered a responsive website for the EmojiCloud Python package using Python FastAPI (backend) and Next.js (frontend) with WebSocket communication
- Containerized the entire application using Docker, reducing deployment times by 50% and ensuring consistent environment setups
- Architected a robust task queue system using Celery, RabbitMQ, and Redis, deployed on AWS with AWS EC2, AWS MQ, and AWS ElasticCache, achieving a 99.95% uptime on AWS and handling over 100 tasks per hour.

PROJECTS

ChatGPT-Archive - chrome extension

- Developed a Chrome extension for ChatGPT using Vite and React, leading to a 30% boost in user productivity by introducing features such as quick search via keyboard shortcuts, a comprehensive folder & tag system, and seamless integration with platforms like Notion
- Prioritized user accessibility, designing the UI using Shadcn UI, resulting in positive feedback from test users regarding ease of use
- Ensured user data privacy by leveraging Dexie.js for CRUD operations, storing synced conversation data directly in the browser

Music Player - website

- Designed a dynamic music search and playback website using Next.js, TailwindCSS, Framer Motion, and the public iTunes API
- Crafted a custom audio player using Web Audio API, offering users a unique listening experience and increasing average session duration by 25%
- Efficiently managed the application's global state with React Context and Zustand, reducing re-render times by 70% and ensuring a seamless user experience