Colin Zhou

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EDUCATION

University of Illinois Urbana-Champaign   Urbana, IL
Masters in Computer Science   *Aug 2022 – Dec 2023*

Bellevue College   Bellevue, WA
Bachelor of Science in Computer Science   *Aug 2019 – May 2022*

EXPERIENCE

Full Stack Software Engineer   December 2024 – February 2025
Nuclearn   *Remote*
- Utilized FastAPI/SQLAlchemy to develop scalable backend functionality to accelerate retrieval speed of up to 25 most similar records in a dataset using 500+ embeddings generated through natural language techniques. Designed a backend workflow using new SQLAlchemy models to migrate 100+ YAML configs from 5 files into PostgreSQL, streamlining DevOps work for 5 engineers during development.
- Improved frontend reliability and speed for proprietary AtomAssist chatbot, by optimizing markdown processing for streaming LLM tokens. Deployed role-based access control with error handling for access management, ensuring more secure access to 10+ unique web app features on the frontend like Cluster Analytics and AtomAssist.

Full Stack Open Source Contributor   March 2024 – August 2024
PolicyEngine   *Remote*
- Improved reliability of company's blog page by using JavaScript to properly render 50+ blog images with fallbacks. Improved developer velocity by adding a RESTful URL route to show the API status with low latency, serving 100 requests / min from around 50 authenticated users.
- Independently streamlined 150 Jest unit tests through a data driven approach by refactoring 5 metadata API calls to occur in the beginning of testing runs, accelerating CI/CD test automation performance time by 27%.

Full Stack Software Engineer   Aug 2023 – Dec 2023
EcoLogical   *Remote*
- Implemented an engaging user-facing 5 page responsive dashboard using React and Ant Design for a web app to help small businesses track their carbon footprint. Optimized the accessibility of the web app to fit 5 desktop and mobile devices using a reusable component architecture and flexible CSS media queries.
- Resourcefully utilized 15 GraphQL queries generated on AWS to dynamically customize the dashboard for premium and basic plan users, reducing frontend complexity and improving developer efficiency. Developed a 4 step sign up process for a more fluid user registration workflow using React and Ant Design with TypeScript.

Software Engineer Intern   July 2022 – Sept 2022
IOIntelligence   *Bellevue, WA*
- Iteratively constructed an 8 page responsive dashboard using React, TypeScript and Chakra UI design system to coherently display mobile network logging data from 5 devices that was stored in Prometheus.io for better IT analysis. Implemented a Node.js server using Express that queried a MySQL database containing user data, reducing the data population latency of the dashboard through structured API integration and cleanly managed state between server and UI.

Front End Engineer Intern   June 2021 – Sept 2021
Molloy Moreno LLC   *Issaquah, WA*
- Collaborated with a cross-functional team of 7 and shipped Project Elpis in 3 months, a serverless web app that helps at-risk high school students in NYC track their career progress. Used React and TypeScript to create the ability for teachers to download student progress forms, improving instructor workflow and transparency .
- Utilized React and 20 GraphQL queries from Amazon backend to create end-to-end features allowing teachers to add new students, and create / assign learning pathways with responsive design principles, reducing the number of steps to manage students.

TECHNICAL SKILLS

Languages: JavaScript(ES6), SQL, HTML5/CSS3, TypeScript, Python
Frameworks: Recharts, Next.js, React, Redux, Node.js, Express, Tailwind CSS, Jest, FastAPI, Pydantic, React Query
Developer Tools: Kafka, MongoDB, MySQL, GitHub Copilot, Docker, GraphQL, RESTful API, CI/CD, GCP, AWS, LLM, PostgreSQL, Github, Linux, Redis, Agile, Webpack, Jira, Figma, Alembic