

Colin Zhou

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EDUCATION

University of Illinois Urbana-Champaign

Masters in Computer Science

Urbana, IL

Aug 2022 – Dec 2023

Bellevue College

Bachelor of Science in Computer Science

Bellevue, WA

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

- Handled design ambiguity by developing 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.
- Owned and delivered end-to-end features leveraging React and 20+ GraphQL queries from Amazon backend, empowering teachers to seamlessly add students and assign learning pathways, while applying responsive design principles to reduce management steps.

TECHNICAL SKILLS

Languages: TypeScript, Python, JavaScript(ES6), SQL, HTML5/CSS3

Frameworks: Next.js, React, Node.js, FastAPI, Jest, Redux, Express, Tailwind CSS, Pydantic, React Query

Developer Tools: OAuth, PostgreSQL, MySQL, CI/CD, Docker, AWS, Git, Linux, Kafka, MongoDB, GitHub Copilot, GraphQL, RESTful API, GCP, Redis, Agile, Webpack, Jira, Figma, Alembic