

Ji Bing Ni

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EDUCATION

Purdue University

Bachelor of Science in Computer Science

West Lafayette, IN

Aug. 2022 – May 2026

EXPERIENCE

AI Music Research Assistant

Jan. 2025 – Present

Purdue University

West Lafayette, IN

- Developed the frontend of an **AI-driven music accompaniment app** for **iOS** and **Android** using **React Native** and **TypeScript**, building **10+** components and enabling real-time AI adaptation to musicians' playing
- Integrated **OpenSheetMusicDisplay** to render MIDI files and display musical notation, while currently developing cursor movement to track the AI Companion's real-time position for synchronized playback
- Redesigned app by replacing **client-server** model with a **TypeScript** standalone frontend, reducing dependencies

Front-End Developer

Aug. 2024 – Dec. 2024

Purdue Vertically Integrated Projects

West Lafayette, IN

- Developed a responsive landing page using **HTML**, **CSS**, and **JavaScript** for **ECE Labs.io**, integrating **10+** components, including a dynamic navbar, interactive carousel, and collapsible FAQ, attracting new users
- Revamped **ECE Labs.io** homepage by modularizing **5+** sections and applying a modern flex-based layout, simplifying navigation for **450+ students**, resulting in better overall user experience
- Ensured a consistent user experience across **20+ devices** using **CSS** media queries for mobile, tablet, and desktop

Undergraduate Data Science Researcher

Aug. 2024 – Present

The Data Mine - Purdue University

West Lafayette, IN

- Developed an **AI-powered chatbot** for **Wabash**, integrating a trained **NLP** model using **machine learning** for query classification, database retrieval, and context-aware responses, reducing reliance on call center agents
- Implemented a user-friendly front-end interface that interacts with a back-end server and **RESTful API**, handling chatbot interactions, session management, and feedback submission, resulting in a scalable and efficient chatbot
- Developed **5+** test cases, including tests for external **API** connectivity, **RESTful API** endpoints, and data storage accuracy, while optimizing chatbot responsiveness across **20+ devices**, improving chatbot reliability
- Collaborated in a **8-member software team** applying **Agile** practices via **Azure DevOps**, enhancing efficiency

Undergraduate CS Teaching Assistant

Aug. 2024 – Present

Purdue University

West Lafayette, IN

- Led office hours for **1,080+** students on **Object-Oriented Programming & C Programming** and **900+** students on developer tools, including **Git**, **Bash**, and **VS Code**, improving student's course comprehension
- Graded **80+** assignments and provided feedback, enhancing student's assignment quality and code maintainability
- Answered **200+** student questions on **Ed Discussion**, improving student's understanding of the course material

PROJECTS

Pokémon Web Application | React, Express.js, Node.js, MongoDB

May 2024 – Present

- Integrated **RESTful PokéAPI** for real-time data, dynamically displaying information on **1,000+ Pokémon**
- Engineered a secure and scalable backend using **Express.js** and **MongoDB**, implementing a **RESTful API** to handle authentication and supporting **1,000+ users**
- Designed a responsive UI with **React**, **Material-UI**, and **Tailwind CSS**, enhancing user experience

Productivity Management System | React, Python, SQLite

Aug. 2024 – Dec. 2024

- Engineered a full stack client-server application using **React.js** and **CSS** for front-end, **Flask** for backend, and **SQLite** for data management, allowing users to access and manage their schedule and tasks effectively
- Collaborated in a **6-member scrum team**, delivering a client-server system that consisted of **70+ user stories**
- Facilitated **27+** Scrum ceremonies (Backlog, Stand-ups, Reviews, and Retrospectives), improving team efficiency

TECHNICAL SKILLS

Languages: Java, Python, C, C++, JavaScript, Typescript, SQL, R, HTML, CSS, Tailwind CSS

Frameworks: ReactJS, React Native, Flask, Express.js, Node.js, MUI, Bootstrap, MongoDB, PostgreSQL, SQLite

Developer Tools: Git, GitHub, Azure DevOps, LaTeX, VS Code, IntelliJ, Eclipse

Libraries: pandas, NumPy, Matplotlib, Beautiful Soup, SQLAlchemy