

Andrew Liu

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EDUCATION

Vanderbilt University, Nashville, TN, Expected May 2026

Bachelor of Science in Computer Science, Concentration in Applied Mathematics. GPA: 3.64

Relevant Coursework: Artificial Intelligence, Data Structures, Operating Systems, Java Object-Oriented Programming, C++ Software Design, Algorithms, Linear Algebra, Differential Equations, Multivariable Calculus

EXPERIENCE

Yu Huang Lab, Vanderbilt University - *Research Assistant* (January 2025 - Present)

- Designing an AI-driven education system that integrates **reinforcement learning** and **chain-of-thought prompting** to enhance computer science education

ChangePlusPlus - *Developer* (September 2024 – Present)

- Developing full-stack mobile application with 10-member Scrum team using **Expo** and **React Native**
- Collaborating with School The World NPO stakeholders to roadmap project outline
- Implemented database collection for school visits using **SQL** and **TypeScript** to ensure type safety

Vanderbilt Data Science Club - *Developer* (November 2023 – May 2024)

- Collaborated with ThriftSmart, the largest thrift store in Nashville, using Agile project management
- Developed an image-based price appraiser using **Meta SAM** and **Google Lens API**, improving pricing accuracy for thrift store items
- Designed a **React** web application to streamline inventory management, reducing manual tracking efforts

Biomedical Data Representation and Learning Lab, Vanderbilt University - *Research Assistant* (February 2023 – May 2023)

- Assisted with manual image annotation and used image processing tools to assist in digital pathology
- Prepared data for application to public databases (NIH, DOD, etc.) for patient reports

PROJECTS

ChatApp (Full Stack)

- Created a real-time chat web application using **Next.js**, **React**, **TailwindCSS**, **Socket.io**, and **Prisma/SQL**
- Implemented support for **CRUD** operations on chat channels and messages
- Integrated **NextAuth** and **OAuth** for secure user authentication and authorization

Country Guesser (Full Stack) - [GitHub](#)

- Developed a geography trivia web application (**MongoDB**, **Express**, **React**, **Node.js**, **TypeScript**) with an interactive map built on **Leaflet**
- Integrated REST Countries API and a reverse geocoding API to validate user input based on map interactions
- Designed a **NoSQL database** to securely store user credentials with **JWT** for authentication and **bcrypt.js** for password hashing

Travel Guide (Front End) - [GitHub](#) - [Website](#)

- Designed a website with **React** to assist in finding hotels, restaurants, and other attractions, and deployed on **Vercel**; fetched data from Google Maps API and Travel Advisor API

SKILLS

Languages/Libraries: Java, C++, JavaScript, HTML/CSS, Python, TypeScript, SQL, ReactJS, NodeJS, Tailwind, TensorFlow, NumPy, scikit-learn

Development Tools: VSCode, Git, npm, Google Suite, Microsoft Office, Excel, Postman, IntelliJ, CLion