Andrew Thompson

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Portfolio: https://andrewtho5942.xyz/

Education

Bachelor of Science in Computer Science & Data Science *Expected Graduation May 2026*
Purdue University, West Lafayette, IN

- Concentration in Databases & Information Systems and Machine Intelligence
- **GPA**: 3.82/4.0 (First five semesters)
- **Relevant Coursework**: Systems Programming, Data Structures & Algorithms, Relational Database Systems, Machine learning

Pursuing a Masters in Computer Science at Purdue, expected graduation May 2027

Experience

Summer Undergraduate Research Fellow (SURF), Purdue University (Summer 2024 - 2025)

- Co-authored a published paper on LiDAR performance measures
- Presented a poster on LiDAR-based collision prediction, earning the "Outstanding First-Time Researcher" award
- Made an interactive map using Leaflet to visualize multiple variables across thousands of Indiana's railroad intersections
- Wrote / improved data pipelining and GCP monitoring scripts for backing up and transferring data, using GCP logging and bigquery

Teacher's Assistant, CS240 "Programming in C" (2023-2024)

- Graded part of over 200 assignments weekly, assisted student debugging/questions in labs and office hours
- Automated student homework testing with a Bash script
- Contributed to an improved C code linter to speed up the grading process for TAs

Game development intern, CESJ (2022-2024)

- Designed an educational browser game in JavaScript using p5.js with Firebase and React
- Presented weekly updates to CESJ leaders and implemented feedback from user testing based on dozens of reviews

Projects

Descargo: December 2024 - January 2025

- Built a react browser extension to assist in downloading video & audio files from almost anywhere on the internet
- Wrote two (local & cloud) node.js servers that can be switched in the settings
- Integrated a variety of video processing features such as auto-generating subtitles with whisper AI, normalizing loudness, etc.

Print Manager: January - May 2024

- Created a full-stack MERN web app for managing 3D printing labs with CRUD operations
- Built the backend with Express.js and SQL database on Google Cloud using custom indexes and transaction isolation levels
- Followed standard security practices like using prepared statements to prevent SQL injection

Digital Marketplace: August - December 2022

- Developed a Java file I/O class for a digital marketplace
- Contributed to server-client networking with multithreading and a GUI for user interaction
- Made a 15 minute demo presentation and write-up for the project

Additional projects can be found on my website at andrewtho5942.xyz/projects

Clubs & Activities

Purdue 3D Printing Club: Officer (2023 - present)

- Created the lab organizer software that is used by hundreds of people in the club (see Print Manager), supervised the 3D printing lab

Boilermaker Rube Goldberg Team: Webmaster (2023 - present)

- Refactored and migrated the club's website to use the React framework and moved hosting to netlify to save $20/month hosting fees
- Collaborated with the team and contributed to a Rube Goldberg machine that won 1st place in the national competition

VEX Robotics Club (2017 - 2023)

- Led robot design and programming for state and national competitions, including multiple VEX World Championships
- Second place in Illinois for skills score in 2022
- Traveled to Washington DC for the 9th annual SASA National Advocacy Conference where we advocated to expand STEM opportunities in Illinois

Skills

Programming Languages: Java, C, R, Python, SQL, JavaScript, C++, HTML, CSS, XML, VBA
Frameworks & Tools: React, Tailwind, Bash, UNIX, GCP, Firebase, Pandas, Numpy
Miscellaneous: Linux OS, Custom PC Assembly, Conversational in Spanish, CAD & 3D Printing, Embedded Programming

Awards & Honors

- Dean's List & Semester Honors (all semesters)
- Outstanding First-Time Researcher award from SURF
- Purdue GIS Day - Outstanding Undergraduate Poster Award