Shanrong Wu

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Education

University of Illinois Urbana-Champaign — Urbana, Illinois

Bachelor of Science in Computer Science — GPA: 3.88 — *Expected Graduation Date: May 2028*

Related Coursework: *Introduction to Computer Science I, Introduction to Computer Science II (Honors), Discrete Structures, Data Structures, Computer Architecture, Software Design Lab*

Projects

HackIllinois 2026 – HackAstra | *React, Python, Flask, Gemini API, Supermemory* — Feb 2026

- Collaborated in a team of 3 to develop an AI inspection software application for Caterpillar Track, automating daily inspections through audio, video, and image-based input.
- Integrated the Gemini API to deliver real-time AI-generated inspection feedback during the inspection workflow.
- Built full stack features using React and Flask, including inspection processing and reporting.
- Implemented a machine inspection history to store and display previous inspection results for machines.
- Improved report generation by debugging inspection output and creating functionality to consolidate multiple same day inspections into one unified report in daily checklist and history.

Raytracer in Rust | *Rust* — Oct 2025 – Jan 2026

- Developed a ray tracing application in Rust with a 3 person team, utilizing Rust crates for rendering and systems level performance improvements.
- Designed and implemented geometry processing utilities to convert 3D coordinates and STL mesh data into triangle objects for ray object intersection testing using the Möller–Trumbore algorithm.
- Optimized runtime by about 10x with parallel processing, multithreading, and denoising techniques.
- Created scenes with STL based models and geometric objects to check rendering accuracy and scene composition.

IlliniBites | *TypeScript, React Native, Expressjs, HTML/CSS* — Sep 2025 – Dec 2025

- Developing a mobile app called IlliniBites with a team using React Native framework
- Improved user experience by implementing filtering and sorting feature on specific topics

Paradox | *JavaScript, React, Next.js, HTML/CSS, TailwindCSS, Supabase* — Jul 2025 – Aug 2025

- Developed an interactive web application using Next.js, React, and JavaScript to track and manage multiple data attributes for the Paradox game clan.
- Improved data logging efficiency by moving from manual Google Sheets workflows to a Supabase database.
- Built data visualizations to display user and clan metrics, and designed a responsive user interface using HTML/CSS and Tailwind CSS.

Extracurriculars

SIGmobile — Oct 2025 – Present

Backend Developer — *Urbana, Illinois*

- Contribute to backend for CS Course Recommender, a mobile app designed to recommend CS courses to students.
- Collected and processed course data by scraping UIUC Course API and assigning interest tags to each course.

SIGrobotics - F1tenth — Sep 2025 – Present

Simulation/Programmer — *Urbana, Illinois*

- Develop autonomous driving functionality for the F1TENTH racecar in the F1TENTH Gym simulation using C++, ROS 2, PID control, and path planning/control algorithms across multiple track layouts.
- Support development for the physical racecar by working with 2D LiDAR, stereo vision, and Jetson Nano.
- Participate in meetings to collaborate on project progress and continued learning of autonomous racing concepts.
- Help define project goals and contribute to software development for both simulated and physical racecar testing.

Technical Skills

Languages: C++, Java, JavaScript, TypeScript, HTML/CSS, LabVIEW, Rust, Python
Frameworks: React, Next.js, TailwindCSS, ROS2
Developer Tools: Git, GitHub, GitLab, Docker, VS Code, IntelliJ, Supabase
Spoken Languages: English, Mandarin Chinese