

Jayden Ruddock

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Education

The University of Texas at Austin

Bachelor of Science in Computer Science

Austin, TX

Expected May 2029

Honors: UT Robotics Honors Program (First Cohort), UT for Me Scholarship

Coursework: Operating Systems, Computer Architecture, Data Structures, Algorithms, C++, Discrete Mathematics, Linear Algebra

Involvement: Freshman Research Initiative (FRI), Association of Black Computer Scientists (ABCS), ColorStack, ECLAIR, NSBE, IEEE

Technical Skills

Languages: Python, C++, C, TypeScript, JavaScript, SQL, Java, Bash, HTML/CSS

Applied AI & Systems: Tool Calling, Agentic Workflows, llama.cpp, GBNF Grammars, Ollama, PyTorch, Reinforcement Learning, OpenCV

Software & Infrastructure: Next.js, React, Node.js, Express.js, FastAPI, Convex, Supabase, PostgreSQL, Docker Compose, Linux, Git, REST APIs, n8n

Systems Programming: Operating Systems, Computer Architecture, Multithreading, Memory Management, Linux CLI

Experience

Autonomous Vehicle Research Initiative

Austin, TX

Undergraduate Researcher (FRI)

Jan 2026 to Present

- Researched co-adaptive reinforcement learning loops in Python and PyTorch using simulated passenger comfort feedback to guide trajectory policy updates.
- Built automated testing scripts to evaluate collision frequencies, reward stability, and policy convergence across training runs.
- Ran data processing pipelines on Linux GPU clusters at TACC to parse driving telemetry logs and sensor feeds for model evaluation.

National Society of Black Engineers (NSBE)

Austin, TX

Telecommunications Chair

May 2026 to Present

- Built an internal operations web platform for 100+ active members using Next.js and React to host chapter resources and test archives.
- Automated member point tracking and roster workflows by configuring cloud databases and deployment pipelines, removing manual spreadsheet entry for officers.

Jack Academy

Remote

Full Stack Website Developer

Aug 2021 to Present

- Engineered donor management portal and checkout flows using secure payment APIs, raising over \$10,000 in student funding.
- Maintained web infrastructure and tracking databases for school administrators, reducing response time for sponsor data updates.

iD Tech Camps

Winter Park, FL

Camp Instructor

May 2026 to July 2026

- Delivered hands-on programming labs for 40+ students covering algorithmic problem solving, loops, and data structures in Python and Lua.
- Guided students through daily debugging and testing sessions to turn project specifications into working software and robotics builds.

Projects

Cody: Autonomous Agent Runtime | Python, Docker Compose, llama.cpp, n8n, Hermes Agent, REST APIs

Aug 2026

- Architected a containerized local agent runtime using llama.cpp and Hermes Agent to serve background inference without external API fees.
- Built multi-turn tool calling pipelines through n8n webhooks and Python scripts, allowing the model to trigger file operations and scripts across local network nodes.
- Added strict JSON schema validation and GBNF grammar constraints to model outputs, stopping malformed tool calls before execution.
- Configured task error handling and container recovery loops in Docker Compose to handle execution timeouts automatically.

Mentor Finder | Next.js, TypeScript, Convex, Clerk, Tailwind CSS, Vercel

Aug 2026 to Present

- Shipped an internal matching web app for 60+ users in Texas Robotics to automate mentor matching and pairing requests.
- Wrote reactive database queries and mutations in Convex to manage application queues and mentor capacity in real time.
- Set up Clerk authentication and admin review dashboards to give program managers a central portal to approve matches and sync rosters.

FlashDrop: Secure File Sharing | Node.js, Express.js, JavaScript, Multer, Helmet, REST APIs

Feb 2026

- Built a temporary file-sharing web service in Node.js and Express.js generating expiring, single-use download tokens.
- Hardened API endpoints against payload abuse by adding request rate limiting, Helmet HTTP headers, and strict MIME-type file parsing.
- Selected for an on-campus Cursor engineering showcase by student ambassadors based on clean project architecture and setup.

SkyLore | Python, Streamlit, React, Supabase, PostgreSQL, REST APIs

Oct 2025

- Won Best Celestial Project at HackTX 2025 out of 1,000+ competitors by delivering a working citizen science web app within 24 hours.
- Built data visualization views in Python using Streamlit to map light pollution reports and real-time observation entries on interactive heat maps.