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PAUL DAVIS

EDUCATION

- **Major:** Computer Science — ***University of Tennessee, Knoxville***
- **Minor:** Mathematics — **2023-2027**
- **Programming Coursework:** Data Structures & Algorithms, Operating Systems, Software Engineering
- **Mathematics Coursework:** Calculus I-III, Differential Equations, Linear Algebra, Abstract Mathematics

EXPERIENCE

STUDENT NETWORK ADMINISTRATOR — ***May 2026 - Present***
OIT, University of Tennessee — ***Knoxville, Tennessee***

- Installed switches, ran cable, and fixed connection problems to keep the campus network running.
- Moved Cacti, the tool staff use to watch campus network traffic, from an aging server to Podman on RHEL 9.
- Added SAML single sign-on through an Apache reverse proxy and migrated 52 user accounts onto it.
- Diagnosed a MariaDB reserved-word bug that blanked every graph, then patched the fix into the container image.
- Troubleshot Layer 1-3 network issues on campus switches over console and SSH.

SOFTWARE DEVELOPER — ***Sep 2025 - Present***
Hack4Impact UTK — ***Knoxville, Tennessee***

- Developed a dashboard for KAT (Knoxville Area Transit) to upload and track transit operation data.
- Built a responsive Next.js and TypeScript frontend connected to APIs and PostgreSQL to visualize transit metrics.
- Implemented scalable Drizzle ORM data workflows to optimize query performance and maintain reliable pipelines.

MACHINE LEARNING RESEARCHER — ***Jul 2024 - Sep 2024***
University of Tennessee — ***Knoxville, Tennessee***

- Used machine learning to detect faults in 3-D printers before they caused print failures.
- Collected heat, light, and distance data with Arduino sensors and trained a regression tree in NumPy and Pandas.

AI RESEARCH INTERN — ***Jun 2023 - Aug 2023***
Vanderbilt University Medical Center — ***Nashville, Tennessee***

- Developed a web application to streamline A1C orders to medical databases with the OpenAI API.
- Translated JSON data into FHIR records and showed that A1C prescriptions could be automated by an AI pipeline.

PROJECTS

ReviewPulse

- Built a platform that collects book reviews for independent authors and uses AI to show what readers are saying.
- Developed a FastAPI and PostgreSQL backend with pgvector semantic search and a React and TypeScript dashboard.
- Ran LLM sentiment and theme analysis as Celery and Redis background jobs, and sent authors a weekly digest.

Packet Visualizer

- Built a beginner-friendly Wireshark alternative that shows live network traffic in an interactive browser dashboard.
- Captured packets with Python and Scapy and streamed them over WebSockets to a React and Recharts frontend.
- Added plain-English alerts for port scans, DNS floods, cleartext passwords, and traffic spikes.

SKILLS

- (Proficient): C/C++, Python, JavaScript, TypeScript, Linux, Git. (Familiar): SQL, React, Next.js, Docker, Podman.

LINKS

- GitHub - https://github.com/pau1davis
- Personal Portfolio - https://pauls-portfolio-page.netlify.app/
- LinkedIn - https://www.linkedin.com/in/paul-davis-069410284/