DAVID FALL

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PROFILE

- Purdue Computer Engineering graduate (2025) with hands-on expertise in embedded systems, ML model development, and full-stack applications. Proven leadership experience and a track record of shipping end-to-end, production-grade software and hardware.

EDUCATION

Purdue University, College of Engineering   **West Lafayette, IN**
Bachelor of Science, Computer Engineering, GPA 3.98/4.00   **May 2025**

- Graduate with Highest Distinction: top 3% of GPAs and graduated in under 3 years
- Purdue National Merit Finalist Scholarship 2022, 2023, 2024, 2025
- Goss Scholars Engineering Learning Community

PROFESSIONAL EXPERIENCE

Honda Development and Manufacturing of America   **Raymond, Ohio**
In-Vehicle Infotainment Software Development and Validation Intern   **May 2024 – August 2024**

- Developed AI models for detecting duplicate bug and issue investigation tickets, reducing duplicate tickets by 50% with a prediction runtime of under 5 seconds
- Validated vehicle software systems through CAN and ethernet monitoring, successfully identified and resolved 5 different production bugs

Purdue University College of Engineering   **West Lafayette, Indiana**
Undergraduate Research Assistant   **May 2023 – December 2023**

- Developed novel NLP techniques for obfuscating sensitive text while preserving mutual information for classification with 50% accuracy
- Conducted literature reviews for identifying opportunities for AI in advanced nuclear reactor simulation

PROJECTS

Vulu – Fitness & Social App | Lead Engineer & Founder   **July 2024 – Present**

- Shipped full-stack social fitness app (React Native, Node.js, Express.js, MongoDB) available on iOS/Android (information at https://vulu.app)
- Developed an instant messaging service using socket.io
- Implemented an AI-driven recommendation algorithm using FAISS with CLIP image and text embeddings
- Optimized cloud infrastructure for scalability using AWS EC2, Lambda, S3, and more

Enlytn – AI Powered Course Generation Platform   **April 2025 – Present**

- Built end-to-end web platform (Next.js, Express, MongoDB) on AWS enabling users to generate an interactive course on any topic (see https://enlytn.app)
- Integrated OpenAI API to generate custom lesson modules with interactive quizzes, diagrams, readings, etc. (generation time under 30 seconds)
- Integrated Stripe payments for premium subscriptions

Embedded Skee Ball | Team Leader   **November 2024 – May 2025**

- Developed electronic rendition of popular game "skee-ball" for availability to users with disabilities
- Developed full two-layer PCB, embedded software, and mechanical design of the device while maintaining professional public documentation

LEADERSHIP AND INVOLVEMENT

Alpha Tau Omega, Gamma Omicron Chapter   **December 2023 – August 2024**
President

- Led the fraternity (150 members) in meetings, oversaw the judicial board, communicated with university administration
- Aided in construction planning and fundraising (> $3MM) for new house

SKILLS AND COURSEWORK

- Programming languages: Python, C, C++, JavaScript, Assembly, Bash
- Libraries/frameworks: React, Tensorflow, PyTorch, numpy, scikit-learn, Pandas, Express.js, Next.js, Node.js, Vercel
- Databases: MongoDB, PostgreSQL, SQLite
- Systems & Embedded: RISC-V, Verilog, KiCad, PCB Design
- Cloud & DevOps: AWS (EC2, Lambda, S3), GitHub Actions, Docker
- Relevant coursework: OOP in C++, Data Structures, Microprocessor Systems and Interfacing, Software for Embedded Systems, Advanced C Programming, Python for Data Science, Intro to Artificial Intelligence, Operating Systems Engineering, Computer and Network Security