DAVID FALL

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PROFILE

- Innovative Computer Engineering student with proven expertise in embedded systems development, ML engineering, and full-stack application engineering. Combining technical skills with practical leadership experience.

EDUCATION

Purdue University, College of Engineering   **West Lafayette, IN**
B.S. Computer Engineering, GPA 3.99/4.0   **July 2022 – May 2025**

- Goss Scholars Engineering Community
- Purdue National Merit Finalist Scholarship 2022, 2023, 2024

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%
- Developed mock server to demonstrate AI detection of duplicate reports during the filing of a report (prediction runtime under five seconds)
- Test infotainment and software systems through CAN and ethernet systems monitoring

Purdue University College of Engineering   **West Lafayette, IN**
Teaching Assistant, Electrical and Computer Engineering   **December 2023 – January 2025**

- Instructed and supervised undergraduate labs in digital logic and embedded systems

Undergraduate Research Assistant   **West Lafayette, IN**
                                                                                                                        June 2023 – December 2023

- Explored opportunities for AI in advanced nuclear reactor simulation
- Developed NLP techniques for obfuscating sensitive text while preserving mutual information for classification

PROJECTS

Vulu – Fitness & Social App | Lead Engineer and 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

Embedded Skee Ball | Team Leader   **November 2024 – Present**

- Developing electronic rendition of popular game "skee-ball" for availability to users with disabilities
- Leading a team of four engineers to ensure optimal progress and integration
- Developed full two-layer PCB, embedded software, and mechanical design of the device

LEADERSHIP ACTIVITIES, AFFILIATIONS, HONORS

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

- Led the fraternity (150 members) in meetings, rituals, and oversee the judicial board
- Aided in construction planning and fundraising (projected to be > $3 million) for new house

Alpha Kappa Psi, Pi Omega Chapter

- Initiated member of the largest professional fraternity in the world for networking and professional development purposes

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, Digital System Design, Advanced C Programming, Python for Data Science, Discrete Mathematics, Intro to Artificial Intelligence, Operating Systems Engineering, Computer and Network Security