David J. Falekulo

dfalekulo@pvamu.edu | 346-434-6757 | www.linkedin.com/in/david-falekulo

Education

Prairie View A&M University
Bachelor of Science in Computer Science with a Minor in Finance
Relevant Coursework: GenAI and Python, Web Development, Computer Science

Summary

Innovative Computer science student focused on embedded systems, robotics, and real-time software. Experienced with UAV development, embedded Linux, and hardware/software integration using python and C++.

Skills

Programming Languages: C++, Python, Java, JavaScript, HTML/CSS, SQL
Data Tools: Pandas, SQL, Jupyter Notebook
Technology/Frameworks: Linux/Unix, Git/GitHub, VSCode, Microsoft 365, Google Cloud, Raspberry PI, Thingiverse, CAD, Hardware Design, Robot Programming, Web Design
Languages: English, Yoruba

Work Experience and Projects

Raytheon Autonomous Vehicle Competition – Lead UAV Programmer *April 2025 - Present*

- Programmed UAV for autonomous flight, ArUco marker detection, and team-to-team communication using ROS 1.2 and python.
- Designed and 3D-printed custom propeller guards to improve drone safety during autonomous flight operations. Contributed to UAV payload deployment design; collaborated with a 10-member team to successfully complete a $15,000 competition project on schedule.

ESP32 Drone Project – Lead Embedded Developer *June 2025 – July 2024*

- Designed and built a miniature quadcopter drone using ESP32, sensors, and lightweight brushless motors.
- Programmed real-time flight control system with wifi-based mobile interface for remote operation. Integrated IMU for balance control and tuned PID loops for flight stability. 3D-printed drone frame using CAD for aerodynamic efficiency and modular repair.

ACM Hackathon Competition *February 2025 - Present*

- Served as the front-end developer in a team of 3 to design and implement user interface for AI-powered tax assistance tool.
- Competed against six other teams, focusing on innovation and real-word impact and achieved **1st Place**.

NASA Space Exploration Software Simulation *December 2024 - Present*

- Completed the CACI Space Exploration Software Simulation Initiative, gaining hands-on experience in UNIX/Linux systems, space mission operations, and Tick simulation software to model real-world aerospace scenarios.
- Earned a certification upon program completion, strengthening proficiency in C++ for simulation-based problem-solving and software development in aerospace applications.

Phillips 66 HBCU Project Participant *September 2024 - Present*

- Worked in a two-person team to develop and deliver all seven project units on schedule, demonstrating strong collaboration and project management skills, placing **1st Place**.
- Applied problem-solving and analytical thinking to address real-world challenges, ensuring project outcomes aligned with company expectations.

District Robotics Competition *March 2023 - May 2024*

- Designed, built, and programmed a competitive robot to complete autonomous and manual tasks, collaborating with a team to refine mechanics and optimize performance.
- Competed against 15 schools in Houston, applying problem-solving, engineering principles, and teamwork to develop innovative solutions and improve robot efficiency.

Engineering & Robotics Project *June 2023 – August 2024*

- Designed and 3D-printed a functional telephone prototype using Thingiverse and CAD software, collaborating with a 10-member team to optimize structural integrity and print feasibility.
- Developed and prototyped a robotic arm for object manipulation, integrating mechanical design principles and software-controlled movement. Conducted performance testing and iterative improvements to enhance functionality and efficiency.

Certifications and Organizations

- **Organizations:** Association for Computing Machinery (ACM), National Society of Black Engineers (NSBE), Robotics, Texas Information Technology, Houston Artificial Intelligence, Houston Data and AI
- **Certifications:** Cybersecurity Club CompTIA Security+ Certification, CACI Aerospace Certificate