David J. Falekulo

dfalekulo@pvamu.edu | 346-434-6757 | www.linkedin.com/in/david-falekulo | https://davidsleep101.github.io/My-portfolio/#

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*

- Developed UAV software using ROS 1.2 and Python to achieve autonomous flight, ArUco marker tracking, and team-to-team coordination.
- Designed and 3D-printed custom propeller guards to improve UAV operational safety during dynamic flight conditions.
- Delivered 15,000 competition-ready autonomous vehicle with 8-member engineering team on time and under specifications.

ESP32 Quadcopter Drone Project – Embedded Systems Lead *June 2025 – July 2025*

- Designed and built an autonomous quadcopter using ESP32, IMU sensors, and custom 3D-printed components.
- Programmed a real-time PID flight control algorithm with mobile WiFi interface for user control and diagnostics.
- Streamlined modular frame for aerodynamic and rapid repair, improving system uptime during testing.

ACM Hackathon Competition – Software Developer *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 Simulation Program – Software Engineer Trainee *December 2024 - Present*

- Completed the CACI Space Exploration Software Simulation Initiative, gaining firsthand 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 Engineering Challenge – Team Engineer *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 – Robotics Systems Engineer *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.
- Optimized drive control and sensor fusion to outperform teams from 15 regional schools.

Engineering & Robotics Innovation Project – Mechanical/Software Integration *June 2023 – August 2024*

- Designed a fully functional 3D-printed telephone prototype using CAD and rapid prototyping techniques.
- Developed and prototyped a robotic arm for dynamic object manipulation using microcontroller-based control logic and motion tuning.

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, Cybersecurity Club
- **Certifications:** CompTIA Security+ Certification, CACI Aerospace Certificate