ASHIERA D. PRESTON

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EDUCATION

Bachelor of Science in Computer Science   Expected Graduation: May '25

Florida A&M University | Tallahassee, FL

3.5 GPA

Student Organizations: National Society of Black Engineers (NSBE); Educating Engineering Students Innovatively (EESI); Engineering Living and Learning Community (ELLC)

SKILLS

Programming: C++; Python; Bash; Command Prompt; PowerShell; MATLAB; Verilog; VHDL; C; Java; JavaScript;

Software: Robot Operating System (ROS); Docker; WSL; Unity; Blender, Multisim; Quartus Prime; Questa Intel FPGA; Autodesk Inventor CAD Software; Kubernetes

Hardware: Raspberry Pi; Mobile Robotic Systems; TI MSP430 LaunchPad; TI MKII Educational BoosterPack; DE1-SoC FPGA

Project: Agile Scrum; DevSecOps Gitlab Pipelines; Prototype Development; Technical Drawing; Project Documentation

Soft Skills: Autodidacticism; Methodical analysis; Tutoring and Instruction; Lesson Development; Structured Planning

WORK EXPERIENCE

Sandia National Laboratories: Research and Development Summer Intern   May '24 – August '24

Project objective: Use generative AI to drive robot agent decisions based on objectives provided in natural language

- Constructed a scene in Unity using custom Blender assets to simulate obstacle avoidance with a virtual robotic agent
- Resolved device-to-device and network connectivity issues via command line interfaces in Bash, PowerShell, and WSL
- Wrote Docker-containerized ROS subscriber nodes to access robot sensor data for real-time environmental context
- Integrated UDP Socket programming into ROS camera subscriber node to send images from a robot's camera to YOLO real-time object detection software; YOLO was able to identify the objects (chair, person, etc.) in the pictures transmitted

Hill Air Force Base: Civilian Employee   Jul '23 – August '23

- Developed new features for training software designed to train teams of new hires to detect planted software bugs
- Completed DevSecOps training in running Docker-containerized software through a Gitlab CI/CD pipeline for deployment via Kubernetes

RESEARCH EXPERIENCE

Undergraduate Research Assistant   Sep '22 – May '23

Center for Intelligent Systems, Control, and Robotics (CISCOR) | FAMU-FSU College of Engineering | Tallahassee, FL

- Research and development on the Extreme Terrain Quadruped (ET-Quad) as presented at the 2022 NASA Big Idea Challenge: Extreme Terrain Mobility
- Designed a simple up/down counter GUI to prototype MATLAB GUI integration with real-time ROS subscriber data

Laboratory assistant   May '22 - Dec '22

Center for Plasma Science and Technology | Florida A&M University | Tallahassee, FL

- Operated the Andor iStar ICCD camera and corresponding software to capture 5-10 samples worth of plasma spectra per Laser-Induced Breakdown Spectroscopy (LIBS) elemental analysis
- Researched and implemented statistical methods to analyze a series of 5 or more LIBS spectra acquisitions for each sample in a set
- Produced 10 sample pellets from Uranium solution and Boric Acid of varying Uranium concentrations to be used for LIBS analysis

COMMUNITY SERVICE

Engineering Projects in Community Service (EPICS)   Aug '21 - May '22

EESI | Tallahassee, FL

- Prepared and distributed curriculum for middle school students using the fluid dynamics and polymers after which 84% of students reported an increased interest in STEM