

Emily Morgan

INTRODUCTION

Software engineer with practical skills in C++, Python, and Java. Excellent visual communicator with an eye for efficient interface design. Proven contributor to cross-functional teams in both academia and defense research. Team player who values and contributes to clear communication, thorough documentation, and robust test pipelines.

EDUCATION

Auburn University | B.E. in Software Engineering with Statistics Minor | May 2024

- GPA: 3.88 (*Summa Cum Laude*)

EXTRACURRICULARS

- Auburn University Undergraduate Research Fellow (2023 - 2024)
- Auburn Hacks Hackathon Marketing Director (2022 - 2024)
- Member, Association of Computing Machinery (2020-2024)
- Member, Society of Women Engineers (2020-2024)

WORK EXPERIENCE

Software Engineer, Electronic Warfare Systems | Integrated Solutions for Systems (IS4S) - Auburn, AL | May 2024 – February 2026

Designed Team Awareness Kit (TAK) plugins in Java, representing a real-world approach for planning in a GPS-denied environment. Utilized messaging protocols such as SOAP and REST to exchange data with legacy systems.

Supported debugging and analysis efforts at various test events demonstrating new software capabilities. Developed Python analysis tools to extract trends from system logs during test events. Contributed to bug triage and project road-mapping efforts.

Research Engineering Intern | Radiance Technologies - Huntsville, AL | Summer 2023

Created a Java tool to analyze Web Ontology Language (OWL) representations of electronic systems, and generate various matrices describing relationships of constituent subcomponents to be analyzed by AI to predict system vulnerabilities in High-Power Microwave (HPM) scenarios. Wrote unit tests for new code, which integrated with the team's GitLab CI/CD pipeline.

Assisted in defining the design changes needed to migrate a legacy threat modeling computer to a more modern FPGA, with the goal of enabling faster data transfer to and from the device using PCI Express.

Research Engineering Intern | Radiance Technologies - Huntsville, AL | Summer 2022

Worked on an Agile-Scrum team which utilized Jira to manage various High-Power Microwave (HPM) modeling projects.

Utilized Java and ANTLR to create a parser for Printed Circuit Board (PCB) manufacturing data (Gerber files) leveraging concepts from object orientated programming . This parser allowed Gerber files to be analyzed by an internally-developed simulation tool to predict system behavior in High-Power Microwave (HPM) scenarios.

Participated in High-Power Microwave (HPM) test events and experiments.

Undergraduate Research Fellow | Auburn University | August 2021 - May 2024

Contributed to Sat-Tycoon, a gamified representation of the Proliferated Low Earth Orbit (PLEO) satellite industry and its economics.

Implemented stochastic events in the game's server (written in Python), with effects on player assets. Modified game's frontend (written with React) to notify users when events affected their assets.

Developed various new UI features, including custom vector graphics, to more effectively communicate 3D orbital mechanics in a simplified 2D representation.

Won 1st place in undergraduate poster presentations at Auburn's 2024 Student Research Symposium, with presentation "A centralized user interface to display satellite mega-constellations in a gamified system."

SKILLS

JAVA · PYTHON · C++ · GIT · JAVASCRIPT · CSS/HTML · REACT · REST/SOAP · ADOBE PRODUCTS · FIGMA