Carson W. Tillery

Software Engineer

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Experience

ICAMS Auburn **Auburn, AL/Remote · May 2022 - Present**

Software Engineer (Research)

- Crafted a unique **mixed reality** system to train users in the management of intricate weld inspection systems within a robotic 3D scanning system for large ground vehicles
- Engineered innovative **C#** software in collaboration with Auburn's Lean Lab, guiding users to construct vehicles while embracing **lean** manufacturing principles
- Leveraged advanced **area tracking** and **model recognition** techniques to enhance spatial orientation within the training experience
- Created a system to gather foot traffic data from various **IoT** sensors within the facility and digest the data for display on a sleek, user-friendly **3D interface**
- Built a robust **database management** system with **PostgreSQL** and Budibase to handle the company's data
- **Web applications** were built to accomplish process automation, data analytics, live monitoring, and much more

Publications

- *Manufacturing Floor Mapping and Presence Tracking with a Physics-Based Game Engine, NAMRC*, June 2024

Education

Auburn University **Auburn, AL · May 2024**

Master of Science in Computer Science and Software Engineering

- GPA: 4.0

Auburn University **Auburn, AL · May 2023**

Bachelor of Science in Computer Science (Business Minor)

- GPA: 3.8, Summa Cum Laude

Projects

Simulated Cloud Network **Spring 2023**

- Crafted a robust simulated cloud infrastructure with **OpenStack**, ensuring resilience and scalability
- Seamlessly integrated a diverse range of **Ubuntu** and other **virtual machines**, each precisely configured to serve specific functions within the network ecosystem
- Employed **Docker** technology in tandem with advanced **networking** protocols to enhance performance and streamline data transmission

Rubik's Cube Solver **Fall 2022**

- Engineered a **Python** microservice adept at solving Rubik's cubes of any configuration, delivering precise rotation instructions for each step
- Implemented comprehensive error handling for unsolvable and invalid cubes
- Secured end-to-end data integrity using **SHA256 encryption**
- Employed Test-Driven Development (**TDD**) methodology and **Git** version control throughout the development process

Technical Strengths

Languages	C#, Python, C++, Java, C, JavaScript, TypeScript, HTML/CSS, HLSL
Technologies	Git, Plastic SCM, SQLite, IoT, MQTT, CLI, OpenStack, Docker, SQL, Tailwind CSS Node.js, React, Next.js, Ansible, PyTorch, TensorFlow, NumPy
Methodologies	Unit Testing, CRC Cards, UML, Agile/Scrum, REST, OOP, FDD, TDD
Software	Linux, Unity, Unreal Engine, Blender, Vuforia, Google Colab