

Jacob Webster

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EDUCATION

University of South Carolina | Columbia, SC

May 2027

Bachelor of Science in Computer Science, Artificial Intelligence Concentration | GPA: 3.6

- **Courses:** Java Programming, C++ Programming, Operating Systems, Computer Networks, Software Engineering, Digital Logic Design, Computer Architecture, UNIX/Linux
- **Honors:** Dean's Scholars, Palmetto Fellows

EXPERIENCE

Software Engineering Intern, Michelin

May 2026 - Present

- Developed automated frontend tests using Playwright for Michelin's inventory management application, decreasing minor release testing time from 150 minutes to 3.5 minutes
- Optimized data pipelines by reducing steps to transmit parcel data by 75% using Kafka and Java microservices

Software Engineering Lead, Caelus - Center for Industry Solutions

August 2025 - Present

- Engineered a ROS2 3D perception pipeline for an autonomous drone, converting 21,600 LiDAR measurements/sec into a real-time 50,000-point 3D point cloud at 10cm resolution for autonomous navigation
- Led a 3-person software engineering team across perception, flight control, and comms. Established Git workflow, branch protection, and code review standards supporting reliable collaboration

Campus Ambassador, CUhackit

November 2025 - February 2026

- Drove a 2x increase in University of South Carolina registrations through targeted outreach campaigns, including in-class presentations, social media promotion, and campus poster distribution
- Coordinated logistics and provided on-site support during the hackathon to ensure smooth operations and participant experience

PROJECTS

SMARTA - Transit Fleet Policy Simulator | *EnergyHack@GT*

January 2026

- Led a team of 4 to build a full-stack transit simulator (React, Node.js, Vercel), modeling cost and emissions for MARTA's gas, hybrid, and electric bus fleets
- Processed 1.5M+ MARTA GPS records to generate real-time visualizations of fleet routes, operational costs, and CO₂ projections
- Built an interactive UI enabling users to adjust policy parameters and instantly see budget and sustainability impacts

AstroAegis | *NASA Space Apps - Most Inspirational Award*

October 2025

- Built a meteor/asteroid visualization tool with a team of 6 using Godot engine for physics simulation and Vue.js/Tailwind frontend
- Implemented gravity-based trajectory calculations and collision detection using NASA datasets to model realistic near-Earth object behavior
- Added internationalization (6 UN languages) and accessibility features (colorblind modes, high-contrast text) for broad usability

QuickCharts | *HackGT12*

September 2025

- Led a team of 4 to build a medical intake tool (Vue.js, Spring Boot) designed to save physicians 2-5 minutes per patient visit by pre-screening symptoms before appointments
- Integrated GPT-4 API to generate contextual follow-up questions based on patient responses, creating dynamic conversation flows rather than static questionnaires
- Built a Spring Boot backend to manage user sessions and coordinate between the frontend, database, and GPT-4 API for dynamic question generation

SKILLS

Programming Languages: Java, C++, Python, C, JavaScript, TypeScript, SQL, COBOL

Web & Frontend: React, Node.js, Spring Boot, TailwindCSS, HTML/CSS

Systems & DevOps: Git, Kafka, Docker, Kubernetes, AWS, Linux, ROS2

Data & Tools: Pandas, NumPy, Playwright, Supabase, Vercel, JUnit