

# JOSIAH WHITE

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## Education

### University of South Carolina

Expected Graduation: May 2027

*Bachelor of Science in Computer Science, Minor in Business & Data Science*

*Columbia, SC*

- Honors College — **GPA: 4.0 / 4.0**
- Courses: Software Engineering, Operating Systems, Computer Architecture, Programming Language Structures

## Work Experience

### Undergraduate Research Assistant

Aug 2025 – Present

*University of South Carolina*

*Columbia, SC*

- Secured a competitive research grant to design and implement a **full MIPS32 interpreter in C++** within Godot, simulating 100+ instructions, memory, and register operations
- Engineered a **virtual machine capable of real-time instruction flow simulation**, enhancing research reproducibility and student learning

### Undergraduate Teaching Assistant

Aug 2025 – Present

*University of South Carolina*

*Columbia, SC*

- Mentored **50+ students weekly**, improving Java proficiency and OOP problem-solving
- Debugged and reviewed **100+ student submissions**, contributing to a **30% improvement in average assignment scores**

## Projects

### CodeCollab – Real-Time Collaborative IDE | *Source Code*

Spring Boot | React | PostgreSQL

- Built a collaborative IDE supporting **10+ concurrent users** with **<150ms latency** using WebSockets & STOMP
- Implemented operational transformation algorithms enabling **real-time conflict resolution and cursor tracking**
- Secured platform with **JWT authentication** and role-based permissions, optimized database performance using **connection pooling, Redis caching, and Hibernate batch processing**, achieving **25% faster query response times**

### KeyQuest - Music Learning Application | *Source Code*

Java | JavaFX

- Led a **5-person Agile team**, managing sprint planning, GitHub workflow, and MVP delivery within **6 weeks**
- Built interactive sheet music playback and creation tools, providing **instant user feedback on notation accuracy**
- Balanced backend logic with intuitive UI/UX, resulting in **positive user engagement and iterative product improvement**

### CockBots – AI-Driven Social Media App | *Source Code*

PHP | SQL | Python

- Developed AI algorithms to detect bot activity with **90%+ classification accuracy**, integrating into a full-stack web platform
- Enabled user interactions with automated moderation tools, enhancing platform **usability and security**
- Recognized with **“Best in AI”** and **“Best in Implementation”** at CockyHacks 2024 for technical innovation

## Leadership

### Kappa Theta Pi - Professional Technology Fraternity

Mar 2025 – Present

*Executive Secretary, Founding Member*

*Columbia, SC*

- Co-founded USC's first professional tech fraternity, supporting nonprofits and advancing student careers, growing chapter to **30+ founding members** in the first semester
- Designed and implemented **professional development and community service initiatives**, directly engaging all founding members in hands-on nonprofit projects
- Established **onboarding and mentorship programs**, connecting new members with leadership opportunities and technical skill-building experiences

## Skills

**Programming Languages:** Java, C++, Python, SQL, JavaScript

**Frameworks & Tools:** Spring Boot, React, PostgreSQL, Redis, TensorFlow, Git, Linux