

Kingston Banks

Software Engineer Intern, Secure Cross Domain Systems

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📍 Ames, IA 50014

STRENGTHS

- 🔧 **Requirements Traceability**
Started with system objectives, then linked requirements, models, implementation tasks, and tests so reviewers could follow each decision.
- 🔒 **Secure Coding**
Compared C, C++, and Rust in constrained exercises. That work made memory safety tradeoffs clearer during design reviews.
- 👥 **Team Delivery**
Managed Git branches and Jira work for six researchers. Teammates sought help when sprint tasks or defects became unclear.
- ✅ **Test Discipline**
Built Python checks for interface failures and repeatable demonstrations. Reliable evidence gave lab reviewers confidence in results.
- ⚙️ **System Integration**
Connected prototype software with hardware interfaces and investigated data flow discrepancies. Clear corrective notes kept testing moving.

SKILLS

Requirements analysis

Requirements decomposition

Embedded software C C++ Rust

Python testing Git Jira UML

SysML Virtualization Containers

DevSecOps CI/CD

LANGUAGES

English Native

Spanish Beginner

SUMMARY

Computer science student with two years of supervised research, secure systems laboratory work, and software projects focused on dependable engineering. Developed C, C++, Rust, and Python components for simulated secure data transfer, then connected requirements, UML and SysML models, implementation tasks, automated tests, and evidence. Used Git, Jira, containers, virtualization, **CI/CD**, and introductory DevSecOps practices across multidisciplinary student teams. Built embedded exercises, explored microservices and orchestration, and integrated prototype software with laboratory hardware interfaces. Active **U.S. government SECRET clearance** and **U.S. citizenship** support secure aerospace and defense work. Enrollment continues through Summer 2027. Ready to contribute careful analysis, clear technical communication, and practical software integration that helps **secure cross domain systems** reach reliable test environments.

EDUCATION

Bachelor's Degree in Computer Science

Iowa State University 🎓 GPA: 4.0 📅 2027 📍 Ames, IA

Coursework: *Software Engineering, Embedded Systems, Cybersecurity, Requirements Engineering*

TECHNICAL SKILLS

- **Programming Languages:** C, C++, Rust, Python
- **Version Management:** Git, Subversion, Jira
- **Systems Modeling:** UML, SysML, data flow diagrams
- **Embedded Development:** Embedded C, embedded C++, Rust
- **Testing Tools:** Python automated testing, unit testing, failure testing
- **Virtualization:** Virtual machines, isolated environments, virtual test systems
- **Containers:** Containers, container images, isolated services
- **Software Architecture:** Microservices, service boundaries, software integration
- **Orchestration:** Container orchestration, deployment workflows, service coordination
- **DevSecOps Delivery:** DevSecOps, CI/CD, static checks
- **GUI Frameworks:** JavaFX, Java Swing, Java GUI development
- **Requirements Engineering:** Requirements analysis, requirements decomposition, traceability
- **Security Engineering:** Cross domain systems, security levels, memory safe applications
- **Integration Standards:** Customer requirements, certification standards, test environments
- **Clearance and Defense:** U.S. government SECRET clearance, aerospace computing, defense computing

EXPERIENCE

Secure Software Engineering Research Assistant

University Research Lab 📅 January 2026 - September 2026 📍 Ames, IA

Supported a six person research team developing a secure data transfer prototype across simulated security domains. Owned software components, traceable requirements, automated testing, isolated deployment, and hardware interface integration under faculty supervision.

- Built C++ and **Rust** components for secure data transfer across simulated security domains.
- Mapped system objectives into traceable requirements, **UML** models, and **SysML** diagrams.
- Managed **Git** branches, **Jira** defects, code reviews, and sprint tasks for six researchers.
- Created Python automated tests for interface behavior and failure cases during lab demonstrations.
- Containerized services for isolated testing and documented deployment steps, assumptions, and CI checks.
- Integrated prototype software with **hardware interfaces**, then documented data flow corrections.

MY CAREER



Secure Software Engineering
Research Assistant at University
Research Lab (8 Months)

Embedded and Memory Safe
Software Project Developer at
Student Lab (1.2 Years)

Embedded and Memory Safe Software Project Developer

Student Lab 📅 September 2024 - December 2025 📍 Ames, IA

Completed supervised **embedded software** work spanning C, C++, Rust, **virtualization**, JavaFX, microservices, containers, and CI/CD. Presented design decisions, test results, and security assumptions within a structured student engineering workflow.

- Compared **C**, **C++**, and Rust implementations across embedded exercises involving constrained resources.
- Configured virtual machines for isolated software testing and repeatable environment setup.
- Connected a **JavaFX** interface with simulated secure processing functions for test status review.
- Explored microservice boundaries, **containers**, and orchestration through a course deployment exercise.
- Added static checks and automated tests within a controlled student CI/CD workflow.
- Presented diagrams, test results, and security assumptions to multidisciplinary student reviewers.

PROJECTS

Secure Cross Domain Data Prototype 📅 2026

Built a supervised prototype for controlled data movement across simulated security levels. Combined C++, Rust, requirements traceability, UML and SysML diagrams, Python tests, containers, and hardware interface checks.

Memory Safe Embedded Test Bench 📅 2025

Compared embedded C, C++, and Rust implementations inside virtual machines. Documented resource behavior, test setup, JavaFX status views, and practical memory safety observations.

LEADERSHIP & AWARDS

- Dean's List, Iowa State University, 2025 and 2026
- Undergraduate Research Poster Recognition, 2026
- Cyber Defense Student Group, Lab Coordinator, 2026

CERTIFICATIONS

- Active U.S. Government SECRET Clearance 📅 2026
- Coursera Rust Fundamentals 📅 2026
- Microsoft Learn Introduction to DevOps 📅 2025

PROFESSIONAL AFFILIATIONS

- Cyber Defense Student Group, Lab Coordinator, 2026
- Computer Science Peer Mentor, 2025 to 2026

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST