Jakob Rangel

+1 (219) 369-2749 | email@jakobrangel.com | linkedin.com/in/jakobrangel | github.com/JakobRangel
U.S. Citizen | Eligible for Security Clearance

Summary

Indiana University Computer Science graduate with a passion for cybersecurity and secure systems development. Experienced in software engineering, reverse engineering, and data security, with professional exposure to healthcare IT environments. Driven to build a career protecting critical systems and sensitive information, combining hands-on technical skills with a deep interest in threat analysis, system hardening, and compliance. Motivated to grow as a cybersecurity professional by pursuing advanced certifications and contributing to organizations focused on data protection and resilience.

Education

Indiana University — Bloomington, IN
Bachelor of Science in Computer Science, Minor in Mathematics — *Aug. 2021 – May 2025*

Experience

Systems Analyst — July 2025 – Present
Harmony Healthcare IT — *South Bend, IN*

- Capture and extract confidential healthcare data from legacy systems, including database exports and other structured records, ensuring integrity and secure transit into HealthData Archiver® for HIPAA-compliant archival storage.
- Provision and configure new database instances in the HiTrust and HIPAA-certified HealthData Archiver environment, applying role-based access controls, encryption, and audit logging to enforce regulatory and organizational protections.
- Conduct validation and retention audits across both legacy and archival systems to verify availability, confidentiality, and compliance with internal policies and external regulations.

Lead Technician — August 2022 – May 2025
Relient Repairs — *Bloomington, IN*

- Lead a technology repair business specializing in hardware/software repairs, upgrades, and modifications.
- Performed microsoldering and BGA rework to repair and modify hardware at a component level, including trace repair and chip replacements
- Provided customer consultations on repair feasibility, hardware upgrades, and security best practices

Projects

Chimera Engine | *C++, C, ASM, Detour/VMT Hooking, Memory Modification* — Jan. 2022 – Present

- Reverse-engineered critical game functions to bypass anti-cheat mechanisms and enable custom code execution
- Developed a custom modification framework targeting Rockstar Studio's RAGE engine
- Implemented a modular hooking system to intercept and modify function calls at runtime
- Engineered memory manipulation techniques to modify in-game behavior, including VMT/Detour hooking

Xbox 360 Reset Glitch Hack | *Microsoldering, JTAG, BGA Rework, NAND Flashing* — Jan. 2023 – Dec. 2024

- Performed a hardware-level modification on the Xbox 360 using RGH3, a time-based CPU pulse attack
- Reprogrammed the NAND flash using a hardware flasher to load CFW and enable unsigned code execution
- Performed precision microsoldering to connect critical points for glitching and system manipulation
- Analyzed and documented security vulnerabilities, contributing research on firmware exploitation techniques

LockBox | *Java, Spring, JWT, PostgreSQL, AES-256 Encryption* — May 2024 – Nov 2024

- Developed a secure, open-source file-hosting solution using Java Spring Boot with a focus on security
- Implemented AES-256 encryption for backend file storage to ensure confidentiality of user-uploaded content
- Built RESTful API endpoints for file uploads, downloads, and access logs while enforcing strict security measures
- Designed the system to be portable and self-hosted, allowing users to deploy LockBox on their own infrastructure

Technical Skills

Languages: C/C++, Java, Assembly (x86/64), Python, SQL (Postgres, MySQL), JavaScript
Security Tools: IDA Pro, Ghidra, GDB, Wireshark, Burp Suite, Metasploit
Vulnerability Research: Reverse Engineering, Exploit Development, Memory Corruption, Binary Analysis
Systems: Windows, Linux, Embedded Systems, RTOS Fundamentals
Hardware Skills: Microsoldering, JTAG Debugging, Hardware Modification, Logic Analysis
DevOps & Tools: Docker, Kubernetes, Git, CI/CD Pipelines, Vagrant, Make, Bash, VirtualBox, VMWare, Terraform, Azure, AWS