ALEK NORRIS

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My professional journey has always revolved around cybersecurity, systems, and gaining a deep understanding of how modern technology works and sometimes breaks. I started with a hands-on IT role, quickly moving from help desk task like activities to managing secure communications infrastructure as a Satellite Communications Operator and COMSEC Custodian in the U.S. Army. I was responsible for the handling and distribution of sensitive cryptographic key material across global communication networks. During this time, I also took on responsibilities beyond my primary role, serving as the lead equipment manager for secure weapons systems (Armorer) and acting as the Operations Center Supervisor (NCOIC), overseeing the coordination and execution of technical operations across the unit. Whether it was operating large-scale antenna arrays or rapidly deploying mobile terminals in challenging and mission-critical scenarios, I thrived in high-pressure environments where precision and security mattered most.

While serving, I pursued cybersecurity actively, earning and continually renewing certifications such as Security+, Network+, and IT Fundamentals. My passion led me to the Microsoft Software and Systems Academy (MSSA) SkillBridge program, where I gained hands-on experience managing Active Directory and Azure environments, automating virtual machine deployments and configurations through PowerShell scripting and graphical administration tools.

After transitioning from the military, I earned my B.S. in Cyber Security Engineering from Iowa State University—an EAC of ABET-accredited program combining computer science, computer engineering, and applied cybersecurity principles. My academic journey was packed with exciting challenges: mastering cryptographic algorithms (AES, RSA, PKI, and even exploring cutting-edge post-quantum methods), building secure multi-stage processors using VHDL and Assembly, and becoming fluent with Linux and security Frameworks such as NIST, and MITRE ATT&CK. I also dove deep into network security, deploying defensive measures like deep packet inspection, firewall configuration, and log correlation in custom-built lab environments.

Outside traditional coursework, I developed and deployed a secure Android application using Java with a Spring Boot backend. Additionally, I took the lead on a team project affiliated through collaboration with the NASA-funded POSYDON astrophysics initiative. Together, we created the HEBSE system (Holistic Exploration Explorer of Binary Stellar Evolutions), a browser-based platform designed for intuitive querying and visualization of massive astrophysical datasets. My primary role involved architecting a secure browser storage system using Node.js, ensuring encryption keys remained isolated through locally generated binary-based keys. This approach provided robust protection for data at rest and in transit, leveraging PKI-based mutual authentication between browser and backend components in remote environments. For local deployments, our solution intelligently detects and adapts, eliminating unnecessary encryption overhead while preserving security integrity.

Our comprehensive tech stack included a React frontend, backend handlers in Node.js and Python, and a PostgreSQL database, all integrated within a robust CI/CD pipeline boasting over 95% code coverage for testing. We even incorporated natural language processing (NLP) to allow researchers to create complex domain-specific queries using plain language, making vast scientific data accessible and interactive.

I genuinely thrive in dynamic, adversarial scenarios requiring quick adaptation, curiosity, and precise technical execution. Whether it's reverse-engineering malware, optimizing infrastructure visibility, or fine-tuning cloud IAM policies, my systems-level approach always puts security first. I'm equally comfortable across offensive (red team) and defensive (blue team) cybersecurity domains, constantly looking for ways to enhance security posture, be it through deep packet analysis, detection rule refinement, or custom-built tooling to automate and streamline workflows.

Above all, my track record shows a consistent ability to learn quickly, close skill gaps proactively, and successfully deliver under pressure. I'm eager and ready to channel this energy into new challenges, passionately defending, building, and strengthening systems at every level.

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