**Professional Self-Assessment**

Over the past year and a half, I’ve been laser-focused on finishing my Computer Science degree as quickly and thoroughly as possible. I accelerated through the program with a 4.0 GPA, driven by my goal to re-enter the same field I left during my time in the U.S. Navy—working with secure systems and supporting national defense. Now that I’m wrapping up my capstone, I’m actively applying to DoD and defense contractor roles that allow me to combine my intelligence background with my software development and cybersecurity skills.

For my final portfolio, I selected three artifacts that show my capabilities in full-stack development, algorithm optimization, and database design—each enhanced to better align with industry expectations and real-world use.

**Software Design & Engineering: Secure Encryption Tool (CS-405)**

For the software engineering component, I improved a C++ application originally built to demonstrate file I/O and encryption logic. In the enhanced version, I implemented user-defined input/output handling, added better exception catching, and improved security with XOR-based encryption and character-by-character manipulation. This work ties directly into the DoD’s emphasis on secure data handling and reflects how I’ve adopted a Zero Trust mindset—ensuring minimal access, careful input validation, and encrypted data storage. I also included unit testing to validate encryption output and wrapped the entire project in a CLI interface for portability and testing across systems.

**Algorithms & Data Structures: Command-Line Tool Enhancement (CS-410)**

For my second artifact, I chose a reverse-engineered command-line program that had originally been reconstructed from assembly code. This project allowed me to apply low-level analysis and improve algorithm efficiency. I added command-line argument parsing, restructured the logic for clarity and maintainability, and made sure the compiled program could handle a range of input cases. These enhancements demonstrate my fluency in data structures and control flow, especially in performance-critical systems—another key asset for roles in secure development and embedded systems used in defense tech.

**Databases: Returns Tracking System (DAD-220)**

Finally, for the databases category, I completely overhauled my original project from DAD-220. That project had been functional but minimal—just enough to meet the requirements at the time. For the enhancement, I rebuilt the entire schema in DB Browser for SQLite, applying proper normalization, setting up foreign keys, and building indexes to improve performance. I created three relational tables—Customers, Products, and Returns—and then wrote advanced JOIN and aggregation queries to simulate analytics tasks, like finding the most common return reasons or identifying product-level return trends. This project demonstrates how I design scalable, relational databases from scratch and write SQL that’s efficient and production-ready. I also exported both the .db file and .sql schema, complete with screenshots and documentation to showcase in my ePortfolio.

**Reflecting Forward**

Through these enhancements, I’ve grown immensely—not just in technical skills but in how I communicate, document, and think about scalability and security. I’ve made sure each project is clean, maintainable, and relevant to the kind of high-trust environments I aim to work in. I’m especially proud of how I’ve taken initiative to go beyond just getting things working; I focused on making my code resilient and professional.

Looking ahead, I’m planning to pursue a master’s program in quantum computing, as I see the future of cybersecurity, simulation, and national security heading in that direction. In the meantime, I’m fully prepared to contribute immediately to full-stack teams, secure DevOps pipelines, or software engineering roles that demand a mix of precision, integrity, and innovation—values I developed both in service and in this program.