**Victoria Johnson**

**CS499 Computer Science Capstone**

**Professional Self-Assessment**

Throughout my journey in the Computer Science program at Southern New Hampshire University, I have grown both technically and professionally. Completing my coursework and developing my ePortfolio has helped me recognize and showcase my strengths in problem-solving, technical development, and collaborative teamwork. The process of compiling and enhancing artifacts allowed me to reflect on my growth across software engineering, data structures and algorithms, databases, and cybersecurity.

Team-based assignments throughout the program taught me how to contribute effectively in collaborative environments, balancing shared responsibilities and fostering clear communication. I became more comfortable working with stakeholders, articulating technical goals and progress, and ensuring that everyone involved had a clear understanding of both challenges and solutions. These experiences were further reinforced by my role as an Operations Coordinator, where I actively applied problem-solving, system integration, and automation to streamline workflows and support our organization’s technical infrastructure.

My coursework strengthened my skills in software engineering principles, particularly through modular programming, code refactoring, and structured testing. For example, in one project, I transformed a simple Java contact manager by separating logic into service layers and implementing unit tests using JUnit. In another project, I enhanced an Android-based inventory system by optimizing SQLite queries and integrating in-memory caching to reduce latency. These enhancements required applying core algorithm and data structure concepts in real-world contexts. Working with databases deepened my backend development knowledge, especially through the use of MongoDB and Python. I implemented advanced query filtering, aggregation pipelines, and dashboard analytics to provide meaningful, visualized insights from live data. I also incorporated transactional safety to ensure data integrity—showcasing my understanding of both structured and unstructured data management. Security has remained a key focus in my work. Across several projects, I applied input validation, error handling, and data sanitation practices to prevent system vulnerabilities and ensure reliability. These experiences have reinforced my commitment to secure and maintainable coding practices, a principle I carry into all aspects of development.

Together, the artifacts I included in my ePortfolio demonstrate a progression of technical expertise and professional maturity. Each one highlights a specific area—software design, algorithm optimization, or data analysis—and collectively, they tell the story of how I’ve developed as a computer scientist. As I prepare to enter the field, I am confident that the skills, values, and experiences I’ve gained through this program have positioned me to contribute meaningfully in roles related to software development, data analysis, and intelligent systems.