**Professional Self-Assessment**

Caleb Leavell

caleb.leavell@snhu.edu

Southern New Hampshire University

**Professional Self-Assessment**

Completing the Computer Science program at Southern New Hampshire University and developing this ePortfolio has allowed me to reflect deeply on the technical and professional growth I have achieved throughout my academic journey. This portfolio serves not only as a summary of my capabilities but also as a testament to the career-ready skills I have gained through years of coursework, hands-on projects, and real-world applications. It highlights my strengths in software engineering, secure programming, data management, and system design—skills that align directly with my professional goals and values.

My experience in the program has been transformative. I entered the program with a technical background as an electrical controls technician, and throughout the coursework, I refined my programming knowledge, developed secure and scalable software systems, and learned how to structure and solve complex problems through efficient algorithms and data structures. Developing this ePortfolio gave me a platform to assemble and present my most meaningful work, showcasing my strengths while reinforcing my confidence as I transition into more advanced roles within the computer science field, such as controls engineering and software development.

**Team Collaboration and Communication**

One of the most valuable experiences from the program was learning how to collaborate effectively in team-based environments. Through multiple group assignments and peer reviews, I learned the importance of version control, clear documentation, and adaptive communication. For example, in a full-stack development project for Grazioso Salvare, I collaborated with virtual teammates to design a database and dashboard interface. Clear communication with both technical and non-technical stakeholders played a key role in the success of this project.

**Technical Expertise in Data Structures, Algorithms, and Software Engineering**

Courses in data structures and algorithms taught me how to build efficient, reusable code with a strong foundation in computational thinking. One artifact in my ePortfolio—a Contact Service application—demonstrates how I applied core algorithmic logic to manage and validate contact records in Java using object-oriented principles. Additionally, my Appointment Service project showcases my skills in software engineering, including persistent data storage, JavaFX GUI design, and robust input validation.

**Database Management and Security**

In another key project, I built a MongoDB CRUD module used to interact with a real-world rescue dog database. This artifact demonstrates my ability to implement database indexing, authentication, and query optimization. I also focused heavily on secure coding practices, integrating unit tests to prevent injection attacks and ensure data integrity. These efforts reflect my understanding of secure software development, a skill highly valued in today’s security-conscious tech landscape.

**Portfolio Overview and Artifact Summary**

The artifacts included in this ePortfolio are thoughtfully selected to demonstrate a full range of my computer science talents:

* **Software Engineering and Design**: The Appointment Service Java application highlights my software lifecycle knowledge and GUI development skills.
* **Algorithms and Data Structures**: The Contact Service artifact reflects my ability to design and implement efficient, maintainable logic using Java.
* **Database Design and Security**: The MongoDB CRUD module and Grazioso Salvare dashboard illustrate my ability to connect backend services to interactive front-end applications securely and efficiently.

Together, these artifacts present a cohesive narrative of my technical abilities, problem-solving mindset, and readiness to contribute meaningfully to a development or engineering team. They reflect a balance of theoretical knowledge and hands-on practical skills gained through real-world projects and rigorous coursework.

As I continue advancing in my career, I am committed to continuous learning and applying the values of precision, security, and innovation. This ePortfolio represents not just what I’ve accomplished, but who I’ve become as a computer scientist: a solutions-focused, collaborative, and capable professional ready to meet the demands of the modern tech industry.