**Professional Self-Assessment**

Completing the Computer Science program has been a rewarding and transformative experience that has significantly enhanced both my technical capabilities and my confidence as a full-stack developer. Through a combination of academic coursework and real-world application, I have built a strong foundation in software development, user-centered design, secure coding practices, and effective team collaboration. This ePortfolio highlights the progress I have made and shows the core competencies I bring to future roles in the technology sector.

One of the most impactful projects I contributed to took place outside the classroom, during my role in a warehouse environment. I had the opportunity to develop Microsoft Power Apps to support daily audits and process tracking. This experience allowed me to apply classroom knowledge in a professional context, while also working closely with supervisors and facility managers. Communication—primarily through email and brief in-person meetings—taught me how to adapt to different working styles, prioritize clear and concise collaboration, and deliver practical solutions within time constraints.

Throughout the program, I also developed the ability to communicate technical concepts to non-technical audiences. In my UI/UX Design course (CS-319), I conducted user interviews to inform people about the design of a mobile application. One participant, who had limited experience with technology, prompted me to adjust my communication style, simplify explanations, and focus on relatable use cases. This skill has proven valuable in my current job as well, where I frequently assist coworkers unfamiliar with digital tools and platforms.

Technically, my skills in backend and frontend development have matured significantly. A key project, *Travlr* (CS-465), developed using the MEAN stack, allowed me to work hands-on with features such as CRUD operations, array and object manipulation, and security. This project helped me shift from focusing solely on functionality to thinking more holistically about performance, data flow, and user experience.

I have also developed reliable software engineering habits, such as implementing robust error handling, logging, and testing practices. I regularly test my applications by intentionally introducing edge cases and potential failure points, ensuring the software is resilient under real-world conditions. When designing apps backed by SharePoint lists, I’ve learned the importance of thoughtful data structure planning to support long-term scalability and ease of maintenance.

Security has become a core area of focus throughout my studies. Early in the program, I encountered a vulnerability related to SQL injection in a mobile app that used SQLite. Resolving the issue by implementing parameterized queries and input validation sparked a deeper interest in secure coding. Since then, I’ve implemented JWT-based authentication, password hashing with salting, and both client- and server-side sanitation. Security is no longer an afterthought—it is a mindset I carry through every stage of development.

The program has also expanded my technical toolkit. I have become proficient in Java, Python, Angular, Node.js, and both SQL and NoSQL database systems. Transitioning from early work with PHP and MySQL to modern full-stack JavaScript development has been both eye-opening and energizing. I am particularly passionate about integrating full-stack web development with mobile applications, and the program has provided a solid foundation to pursue that path.

Balancing full-time work with full-time studies has taught me the importance of time management, self-discipline, and prioritization. I have developed habits for writing clean, modular code and always keep the user experience at the forefront of design. Looking ahead, I aim to pursue opportunities that allow me to build secure, intuitive, and impactful software, especially in projects that connect web and mobile platforms.

**Portfolio Artifact Summary**

This portfolio demonstrates the progression of my skills in **Software Design and Engineering**, **Algorithms and Data Structures**, and **Databases** through a single project—an inventory management application. Each artifact illustrates a step in my development process, showcasing how I applied the knowledge and techniques I gained throughout my coursework and hands-on experience to create increasingly sophisticated solutions.

The project began as a mobile application designed to track inventory in environments such as warehouses, offering features like user authentication, item tracking, and quantity updates. As the project progressed, I extended it into a full-stack web application using modern development practices. This version replicated the mobile app’s functionality and provided a responsive, browser-based interface, demonstrating my ability to transition between platforms and apply full-stack development techniques.

A significant part of the enhancement involved refactoring the original mobile app’s architecture to improve efficiency, scalability, and maintainability. By optimizing the codebase, I improved the app’s performance and ensured it could handle larger datasets and future feature expansions. This process also involved rethinking the structure of the app to accommodate changes in how data is stored and accessed, ultimately leading to a more robust and user-friendly application.

Another key improvement was integrating the app with a centralized, cloud-based database. This upgrade enabled real-time synchronization of data across both the mobile and web platforms, streamlining data management and enhancing performance. I also implemented security measures such as secure authentication, Role-Based Access Control (RBAC), and pagination, ensuring that the system was both secure and scalable for future growth.

These artifacts collectively highlight my ability to design, develop, and enhance full-stack applications. They demonstrate my technical growth and readiness to apply industry-standard tools and practices to build practical, secure, and scalable software solutions. Through these projects, I’ve gained valuable experience in full-stack development, mobile application design, and database integration, preparing me for future roles in software development.