**Professional Self-Assessment**

I started the Computer Science program with the goal of transitioning into software engineering. While I had some background in technology and application development, I wanted to develop a much deeper and broader skill set that would prepare me for real-world software engineering roles. Throughout my studies, I've built a strong foundation in programming, data structures, algorithms, web development, mobile development, and database management. My passion for technology has grown even more as I've had the opportunity to design, build, and enhance multiple types of applications using both mobile and full-stack web technologies.

During the program, I developed and published Android applications using Java and Android Studio, which allowed me to gain experience in mobile development, user interface design, and backend integration. As I continued learning, I expanded into full-stack web development, where I worked with both the MEAN (MongoDB, Express, Angular, Node.js) and MERN (MongoDB, Express, React, Node.js) stacks. This helped me develop skills in RESTful API development, asynchronous data handling, secure authentication, and dynamic front-end user experiences.

For my capstone project, I chose to take a console-based Java application I originally developed — a Rescue Animal Management System — and transform it into a fully functional full-stack web application. This project allowed me to apply everything I've learned throughout the program, while also challenging me to learn new technologies such as Spring Boot, JWT-based authentication, and advanced MongoDB query optimization. My final application combines Angular for the front-end, Spring Boot for the backend, and MongoDB for the database, providing a modern, scalable, and secure system that reflects professional software development practices.

Throughout this project, I applied key software engineering principles such as modular design, MVC (Model-View-Controller) architecture, and secure coding. I also focused heavily on data structures and algorithms while implementing features like filtering, sorting, and pagination to ensure efficient performance as the dataset grows. I worked extensively with MongoDB to design a flexible schema that can handle dynamic data and built full CRUD functionality to manage rescue animal records, users, and authentication.

In addition to the technical skills, this program has helped me grow tremendously in my ability to communicate professionally, document my work, and organize complex projects. I've learned how to break large problems into smaller, manageable tasks, and how to clearly communicate my work both through written documentation and code reviews. During assignments and project discussions, I learned the value of clear communication. Writing documentation, managing code with version control (Git/GitHub), participating in peer feedback, and presenting technical work have all helped me develop soft skills that are essential in any software engineering role. These professional skills are equally important as technical abilities, and I feel confident in my ability to contribute to software development teams, collaborate with peers, and engage with clients or stakeholders.

Over the course of my studies, I've also developed a strong security mindset. I now approach application development with an understanding of potential vulnerabilities and the importance of securing user data through proper authentication, authorization, and data handling practices. Implementing secure JWT-based authentication in my capstone project was one example where I applied this mindset directly to a real-world system.

Through this program, I've built a solid foundation in both hard and soft skills that I will carry forward in my professional career. My experience with multiple development stacks, mobile and web applications, secure coding, database design, and system architecture has prepared me to step confidently into a software engineering role. I am excited to continue learning, improving, and contributing to meaningful software projects in the future.