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Professional Self-Assessment

Completing the Computer Science program, which I began in 2020, have provided me with four years of continuous learning, during which I built a robust foundation of technical knowledge, hands-on experience, and problem-solving skills that now prepare me to enter the workforce with confidence. The diverse projects and coursework have allowed me to demonstrate my strengths, refine my professional goals, and develop values that align with the fast-paced and ever-evolving nature of the computer science field. I have had the opportunity to work on a variety of challenges that required a mix of technical expertise, creativity, and collaboration, skills that are essential for success in this industry.

Throughout the program, I have developed strong skills in collaborating within team environments, which has proven critical in delivering effective software solutions. Working on group projects has taught me how to communicate technical concepts clearly, break down tasks, and manage the trade-offs involved in decision-making. One of the most significant experiences was a team-based project where we designed and built a functional web application. This required close collaboration, regular communication, and accountability to ensure that our individual pieces fit together cohesively. The experience honed my ability to coordinate with others, both technically and interpersonally, preparing me to work effectively in professional team environments.

The program placed a heavy emphasis on data structures and algorithms, which has been fundamental to my problem-solving ability. I became proficient in a range of algorithms and

data structures, which I applied in various projects, such as developing an algorithm testing application. This application allowed me to explore the trade-offs between efficiency and memory usage for different algorithms, further sharpening my skills in analyzing time complexity and optimizing performance. Learning to identify the most suitable data structures and algorithms based on specific requirements has empowered me to design efficient, scalable solutions to complex problems.

My experience with software engineering and database management has been equally impactful. I had the opportunity to work extensively with both front-end and back-end technologies in multiple projects, from developing an interactive game with Angular and Phaser to building a full-stack grocery tracker application using Spring Boot and MySQL. These projects allowed me to apply principles of software engineering, such as modular design and clean code practices, while deepening my knowledge of relational databases, query optimization, and schema design. The hands-on practice I gained in database design and implementation has provided me with valuable insights into building secure, reliable, and scalable systems that deliver meaningful business value.

Artifacts Overview

My ePortfolio brings together three major capstone projects that reflect a broad spectrum of my technical skills and demonstrate my ability to apply computer science principles in real-world scenarios. Each artifact represents a significant achievement in terms of both complexity and relevance to industry standards, providing a well-rounded snapshot of my capabilities.

- Vampire Hunter Game: This interactive web-based game showcases my skills in front-end development, state management, and game logic implementation using Angular and Phaser. It demonstrates my ability to manage real-time interactions and maintain smooth performance in a dynamic environment. The enhancements, such as custom pop-ups and

item collection logic, highlight my strengths in creating user-friendly interfaces and optimizing gameplay mechanics.

- Algorithm Testing Application: In this project, I implemented various data structures and algorithms in Java and visualized their performance in real-time using JavaFX. The project demonstrates my deep understanding of algorithmic principles, as well as my ability to build interactive applications that allow users to explore the behavior and efficiency of different algorithms in real-time.

- Grocery Tracker Application: This full-stack application, built with Spring Boot and Angular, showcases my expertise in database management, user authentication, and front-end/backend integration. The project allowed me to design and implement a relational database, manage product sales, and secure the system with advanced security measures. The application's reporting and visualization of sales data using SQL queries reflect my ability to develop business-oriented solutions.

Together, these artifacts demonstrate my proficiency in software engineering, database management, data structures and algorithms, and security. They also highlight my ability to translate theoretical knowledge into practical solutions that align with industry standards and deliver value. These projects, along with my overall program experience, have equipped me with the tools I need to excel in a professional environment and contribute effectively to software development teams.