Mohamed Elhassan
CS 499 - Computer Science Capstone
Southern New Hampshire University

Professional Self-Assessment

As I wrap up my Bachelor of Computer Science at SNHU and complete my capstone, building this ePortfolio has been an invaluable experience in showcasing my technical strengths and shaping my professional goals. Working through every course—from data structures and algorithms to software engineering and database design—has deepened my problem-solving skills and taught me how to turn theory into real-world solutions. Developing this portfolio site itself pushed me to think end-to-end: from designing clean React and Angular interfaces to wiring up a Node.js/Express back end, and finally deploying everything using Heroku, MongoDB and others with infrastructure-as-code.

In a professional setting, collaboration has been at the heart of my journey. In projects, I led sprint planning and daily stand-ups, coordinated tasks in Jira and our custom project tracker, and ensured clear communication with everyone on the team. Whether gathering requirements from stakeholders in client meetings or presenting progress updates, I learned to translate technical details into language everyone can understand—and to listen closely to feedback so features deliver real value.

On the technical side, I applied core computer science principles in a variety of contexts. I implemented a deep-Q learning agent for my Intelligent Agent course, fine-tuning exploration and reward strategies in an 8×8 maze. In my capstone project—180S—I modeled workout and meal-plan data in MongoDB, optimized RESTful APIs, and reinforced security by integrating JWT authentication and following secure coding best practices. These hands-on experiences strengthened my grasp of algorithms, database performance, and application security.

Taken together, the artifacts in this portfolio tell a cohesive story of my growth as a developer and cloud engineer. From small Raspberry Pi experiments to full-stack web apps that fetch dynamic workouts via the OpenAI API, each project builds on the last—demonstrating my ability to learn new technologies, work effectively in teams, and deliver maintainable, secure software. What follows is a deeper look at those technical artifacts, showcasing the full range of my skills and preparing me to contribute immediately in a professional setting.