Sarah Marshall

CS 499

Professional Self-Assessment

Throughout the past 2.5 years at SNHU studying for my bachelor’s degree in computer science, I have learned many things. I have learned different programming languages such as C++, Java, and Python. I have had hands on experience working with GitHub, Artificial Intelligence, Jupyter Notebook, Visual Studio, Eclipse, OpenGL, Algorithms, Data structures, Databases, Full stack applications, MEAN stack, macOS, Windows, Class and Sequence diagrams, Wireframes, Agile, SDLC and much more. This ePortfolio portrays some of my strengths shown in three artifacts.

One being expanding a projects complexity shown in artifact one where I created more advanced OpenGL objects and added textures onto them to make the 3D scene more realistic. The before and after screenshots portray how I have advanced since I last completed this specific programming project.

Another being expanding the complexity of using data structures and algorithms shown in artifact two where I replaced an array list data structure with a hash map data structure, which has a better runtime and overall more efficient. The before and after screenshots portray how I have advanced since I last completed this specific programming project, as well as show how the code preforms a JUnit test quicker with the hash map data structure.

Another being creating a MongoDB and inputting data into it, to then be used in a Python CRUD file and tested with a testing file. This was shown in artifact three where I replaced the existing database with my own database which I added my own data into and tested the connection and CRUD functionality. The screenshot portrays how I have advanced since I last completed this specific programming project, as well as show how the testing file was able to perform CRUD functionality from data found in a database I created.

Once completion of my degree and I obtain my bachelor’s in computer science, I seek to work within the computer science field. My career goals include working as a Full Stack Developer, Front End Developer, Software Developer, Programmer, Information Technology, Web Developer, UX and/or UI Designer, Data Analyst, as well as having an open mindset for other careers within this field. I am seeking full-time positions either remote, hybrid, or on-site, as well as internships. I am motivated and eager to begin working with what I have been learning over the past few years.

Overall, the B.S. computer science program has taught me a broad range of the computer science field. I have gained valuable skills, learned what I am best at doing, as well as areas I need improvement or need more hands on experience with. This program has prepared to enter the computer science field by giving me years of hands on experience within common careers as well as expand my expertise. It has taught me skills outside of computer science as well such as organization, time management, problem solving, critical thinking, communication, independence, teamwork, adaptability, and more.

At SNHU, I have learned how to collaborate in a team environment. This was done by using Bitbucket and Git within Eclipse, here I had to open a repository from Bitbucket on Eclipse, create my own branch, work off the code base to add my own files, modify current ones to fit the assignments each week, and commit and push my work to the repository in Bitbucket where it could be code reviewed by peers. I have learned how to communicate with stakeholders. This was done by working within a Scrum-Agile team and understand needs and expectations from the stakeholders, and communicate in non-technical ways. I have learned data structures and algorithms. Some data structures are hash maps, arrays, linked lists, binary search tree, and hash tables. Some algorithms I have learned are Reinforcement learning algorithms, Minimax Algorithm with Alpha-Beta Pruning, Depth-First Search and Sorting algorithms. I have learned software engineering and database outside of these artifacts by building a full stack application. The website I created focused on front-end and back-end of an application using the MEAN stack and REST. MEAN is made up of MongoDB, Express.js, Angular, and Node.js. REST uses APIs to communicate between systems. I created a travel website that allowed users to view trips on the multi-page application, and book trips on the single page application. I have learned security by including input validation, vulnerability testing, encryption, keeping software up to date, and using proper naming convections within coding programs.

The three artifacts fit together and inform the ePortfolio as a whole by showcasing my skills and strengths. The artifacts help show how I have progressed since the last time I worked with the artifact compared to what I was able to accomplish after learning more from the computer science program.