Self-Assessment

During my time at SNHU, I have had the opportunity to be exposed to a variety of different sectors in the field of computer science. When I first started, I had very little coding experience and wasn't sure what part of the industry I wanted to enter into. Now, after completing the coursework and this capstone project specifically, I've been able to take the time to find my strengths and weaknesses and my likes and dislikes.

My first term, I took two courses, an intro to SQL and an intro to Python. These two courses were very formative and kickstarted my love of both data analytics and Python development. The SQL course allowed me to refine my skills working with large datasets and crafting complex queries to retrieve data in a way that wasn't only accurate but efficient and usable. The Python course taught me how to create and implement a design for a piece of software, a skill that I would use countless other times in my time at SNHU.

I then began to learn more about Java and C++ throughout my next couple of terms as well as begin to understand some of the work that goes on in the world of computer science that isn't just writing code. Taking *System Analysis and Design* and *Software Development Lifecycle* courses in the same semester really increased my ability to understand how software development works in practice. I was able to get comfortable with the notation of UML diagrams and also honed my ability to write effective verbal communication to travel up and down the pipeline from shareholders to developers. Outside of my coursework, I got to practice this skill as well: when friends and family members asked me how the program was going and what I was working on, and rather than giving vague answers, I saw it as an opportunity to try to help them understand technology in a new way, something that I believe is still one of my greatest assets as a software developer.

The next course that was pivotal in my journey as a software engineer was a course on Data Structures and Algorithms. This course exposed me to various sorting algorithms as well as popular data structures like linked lists, binary search trees, queues, and more. This was when I began to understand the tradeoffs that are involved in various design choices and how as developers, it's not enough to just write functional code; it must be efficient as well. Problem solving is something that I both love to do and am good at. This is what sparked my interest in computer science in the first place. I found that during this course, I really had many opportunities to try to problem solve by devising new algorithms, working with different structures to see which were more efficient, and, of course as with any code, constantly debugging.

Along with this, I think one of the things that makes me a valuable member of a software engineering team is that I love to problem solve and am extremely persistent. Throughout my coursework, there were numerous times when I spent hours trying to get a single piece of code to work. Rather than getting frustrated, I saw it as a learning opportunity. I am intrinsically motivated by knowing that when I *do* ultimately solve the problem, the sense of accomplishment and gratification will be great.

Over the next few terms, I took courses in Software Security and Quality Assurance/Testing which really helped shape my mindset when it comes to creating secure code. I learned about the DevSecOps pipeline and the concept of integrating secure practices into every aspect of the software development lifecycle. I am very attentive to detail, and this helps me create unit tests and security protocols that account for all possible situations. It can be tedious work, but again, the payoff that comes from creating, testing, and securing a project is immense.

I know that the field of computer science is competitive right now. I am confident in my technical skills and everything that I've learned here at SNHU. However, I know that there are also thousands of other qualified applicants graduating each year and entering the world of computer science. What I think really sets me apart is my ability to communicate, be flexible, and be a team player.

My background is quite unconventional for a computer scientist. For the past two years, I have been touring North America as a professional actor and singer. While this doesn't bear much relation to computer science on a technical level, it has given me a multitude of skills that set me apart from a traditional computer science applicant. I am totally comfortable with public speaking; after performing for thousands of people a night, presenting to a room of stakeholders isn't quite so stressful. Furthermore, the entertainment industry is extremely collaborative. Nothing can be done alone. I bring this approach to software development as well; I am able to give and receive feedback, communicate about a variety of topics, and overall bring an attitude to the workplace that indicates that I'm eager to work. The desire to continuously push for excellence and settle for nothing less makes me a very valuable person to have on a team trying to complete a project.

The two artifacts present in this portfolio aim to shed light on several of the skills that I've acquired throughout this degree program. The first is a Course Catalog web application that allows student users to browse a course catalog, register and deregister for courses, and run a degree audit. It demonstrates my ability to create code in Python, work with object-oriented programming, implement authentication protocols, validate input, design an intuitive and visually pleasing interface, and work with databases. The second is a Sorting Algorithms applet that allows a user to enter a number of values and a maximum value to see that dataset be sorted

by one of four sorting algorithms they also have the ability to choose. This tool demonstrates my ability to provide meaningful visual representations of data, work with various algorithmic implementations to solve a problem, create a simple GUI using Python, and create tools that help to bridge the gap between technical and non-technical audiences.

Though this is not a completely exhaustive list of the skills I've gained at SNHU, it provides a good representation of my greatest strengths and also some of the most commonly sought-after skills in the world of computer science today. These artifacts are a summary of my progress since starting the program, and I hope that I will continue to learn new skills, grow my portfolio, and create even more sophisticated pieces of software as I continue on in my software development career.