# CS499 Professional Self-Assessment

I have been in the Computer Science program for three years, starting in 2022 at SNHU while working full-time as a System/Network Administrator in an IT Consulting firm. I chose CS because I was amazed by the rapid development of machine learning and AI, and I wanted to understand how it works while learning various programming languages. This fascination with AI and machine learning has not only driven my interest in CS but has also influenced my approach to software engineering, particularly in understanding complex algorithms and data structures while focusing on the security and integrity of data by following secure-by-design principles.

While in the program, I have learned how to write software from zero to production. By understanding the problem to be solved and the various use cases, determining the appropriate technology, tools, and programming languages for each case, and using pseudocode and a flowchart to visualize the process more clearly. I learned about different design patterns and which to use in various scenarios. Another important skill I gained is how to use MEAN to build a full-stack application and migrate it to the Cloud by re-engineering it for serverless architecture.

With my ePortfolio, I aim to demonstrate my proficiency in multiple programming languages by porting one of my applications from Java to Python. Another skill I would like to present is the ability to visualize data using the Python Dash library, which enables the creation of multiple graphs and dashboards while utilizing modern NoSQL databases. I also wanted to showcase my knowledge of algorithms and data structures by optimizing the sorting function from my previous courses and adding additional modules to enhance its functionality.

By improving upon my projects from prior courses, I will demonstrate my mastery of the following professional skills and traits:

* Employ strategies for building collaborative environments that enable diverse audiences to support organizational decision-making in the field of computer science
* Design, develop, and deliver professional-quality oral, written, and visual communications that are coherent, technically sound, and appropriately adapted to specific audiences and contexts
* Design and evaluate computing solutions that solve a given problem using algorithmic principles and computer science practices and standards appropriate to its solution, while managing the trade-offs involved in design choices
* Demonstrate an ability to use well-founded and innovative techniques, skills, and tools in computing practices for the purpose of implementing computer solutions that deliver value and accomplish industry-specific goals
* Develop a security mindset that anticipates adversarial exploits in software architecture and designs to expose potential vulnerabilities, mitigate design flaws, and ensure privacy and enhanced security of data and resources

Demonstrated skills in the areas mentioned above, along with proficiency in multiple programming languages and design patterns, and an understanding of when to use them for different use cases, make me a stronger candidate for any software engineering position. With a decade of experience as a System/Network Administrator and OSCP and OSCE certifications from OffSec, I am a strong fit for a cloud-based software engineering role with a security focus. Potential career options for me include positions as an Infrastructure Engineer, DevOps Engineer, or DevSecOps Engineer.