# CS-499 Module 7 – Professional Self-Assessment

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Discuss how completing your coursework throughout the program and developing the ePortfolio has helped showcased your strengths and shape your professional goals and values and prepared you to either enter or become more employable in the computer science field. Use specific examples from your program and include examples outside of the artifacts included in your ePortfolio. Please address following topics: collaborating in a team environment, communicating to stakeholders, data structures and algorithms, software engineering and database, and security. Note: This should function as an overall introduction to your skills and you will become more specific relative to the included artifacts in the next section.

My time at SNHU in the Computer Science program has helped me develop several skills that have been useful in my existing career and will make me a valuable asset well into my career. The core classes and electives that I have selected and completed have provided me with skills in troubleshooting, problem solving, developing solutions to complex problems individually and when working with a team. I have experienced Object Oriented Design and Development that centered on providing documentation that ensures all parts of the team from development to stakeholders understand what is required and what is being delivered. I have worked on team projects that involved using Agile development and management methodologies. I have worked using GitHub to share work with others and using bitbucket for developing software within a team that requires multiple parties to build branches and commit work to a single project.

I have developed and built upon projects using Python, Java, C, and C++ programming languages to meet project goals and design requirements. I have worked with databases using MySQL and MongoDB and I have worked to evaluate and understand data and databases using data mining software JMP and open-source Orange Data Mining software. Through peer review and incremental development, I have worked with arrays, binary search trees, linked lists, and for secure login and credential storage I have worked with hash tables for encryption. Through course discussion boards and project reviews I have learned to collaborate with diverse audiences and improvement through self-reflection.

Summarize/introduce how your artifacts fit together and inform the portfolio as a whole; this will help demonstrate the full range of your computer science talents and abilities? This section should introduce your audience to the technical artifacts that will follow the professional self-assessment.

I chose artifacts for my portfolio that showcase how I have worked to develop a well-rounded approach to providing efficient and well documented solutions to technological and everyday problems. Using a scientific approach to the ever-growing world of Computer Science and the lives it effects, I have built skills that will serve to provide solutions where others might not. The artifacts that I chose have been developed in languages and environments that were unknown to me when starting and by using algorithmic and scientific thinking I have been able to learn and succeed in these areas. The first artifact I chose to include is my course project from CS-330 Computer Graphic Visualization to showcase my ability to work using C and C++ within one of the most popular IDE’s currently Visual Studio. In this environment I developed a world made of objects of my choosing that allows a user to navigate the world in all directions to provide a computer generated “world” view. I worked to understand matrices and how the software manipulates them to created the geometry to be rendered. I have shown my understanding of data structures and how they work to support and enhance program efficiency using libraries and search structures for sharing and storing data. The second artifact is from CS-250 Software Development Lifecycle. This was my course project that was developed using Java programming and working in Eclipse IDE for Java. I developed code that when compiled would create a GUI window that would act as a slide show for vacation destinations with descriptions. I added a button feature that allows for including external links by opening up the system browser and navigating to a specified webpage. I chose to open the native browser for user security and to ensure that it would operate for multiple audiences. The third artifact that I am including is from DAT-220 Introduction to Data Mining. The course project required JMP enterprise software that was provided by the university. Using the methods that I learned in the course I chose to use Open-Source data mining Software by Orange (<https://orangedatamining.com>) to evaluate the data while learning a new software. Using information that I was familiar with and software that was new, I was able to find evidence to support my original findings and evidence that my original data had more inaccuracies than I originally anticipated. I created a project file that is native to Orange that can be used by any audience to verify my findings and collaborate on changes. I have included a video that provides background to my findings and acts as an introduction to my process, and have updated my original report to show new findings.

I have learned throughout my studies that the best way to support your work and increase security of information it is important to point out possible inaccuracies and areas of improvement. After completing my program, I plan to use many of the methods and processes I have learned to further my career and learning. I will become more familiar with Java development and build on that knowledge with C++ as these are the two languages, I have the most difficulty with and interest in. I plan to develop my network design and Information Security skills to become a PEN tester. I will need to continue working with teams to develop my skills and learn from diverse audiences.