Professional Self-Assessment

During my Computer Science coursework at SNHU I have developed several skills that have prepared me for and made me more employable in the Computer Science field. One skill is collaborating in a team environment. A good example of this is the team project class I took, where we used Eclipse and Bitbucket to make changes to a code base and commit the changes for everyone else to see and comment on. Another skill I have developed is communicating to stakeholders. I have written many reports and analyses on various software development projects, as well as produced complex data analyses in my data mining class.

A third skill I have developed is the use of algorithms and data structures. I took an algorithms and data structures class, where we learned and practiced with many different algorithms and data structures. A few examples are hash maps, binary search trees, bubble sort, and selection sort. I have also developed the skills of software engineering and database manipulation. During my courses I developed many software projects; one example is creating the dice rolling game LCR in C++. I also took a class on MongoDB and developed multiple programs that manipulated data and interfaced with MongoDB. A final skill I have developed is a security mindset. I took a Secure Coding class, where we learned about various vulnerabilities such as string and integer vulnerabilities, and buffer overflows. All of these skills have prepared me for a career in Computer Science.

In my ePortfolio I have highlighted several artifacts and various enhancements to showcase some of my skills in Computer Science. My first artifact for the software engineering/design category is an open source C++ program that takes a number from the user and tells the user if it is even or odd. I enhanced the program by taking a second number and telling the user if the first number is divisible by the second number. I also converted the C++ code to Java. My second artifact is for the data structures and algorithms category, and it is open source Java code that uses sorting and linear traversal of an array to find the most frequent element. I enhanced the artifact by implementing a hash map and using it to find the most frequent element, which is a more efficient way of doing so. My third artifact is for the database category, and it is PyMongo code that I wrote for a MongoDB class. The program inserts a document into MongoDB. I enhanced the artifact by allowing the program to insert multiple documents, and using a try-catch statement to catch exceptions. All of these artifacts showcase my skills in Computer Science, and reflect how I am well prepared for a career in Computer Science.