**Professional Self-Assessment**

My name is Aurthur Nshom and I’m a final year undergraduate student at Southern New Hampshire University, majoring in Computer Science. In completing my coursework throughout my computer science program and developing this ePortfolio, I have gained different skill sets and strengths that have shaped my professional goals and values and have put me in a position to enter into the real world of computer science with skills that are necessary in this field.

Throughout my entire program, I have worked on different projects in a collaborative environment with my classmates to ensure that our projects are completed in a timely manner as well as working to help one another achieve his/her tasks effectively. For example, I worked on a project in CS-310 (Collaboration & Team Project), where we use GitHub as source control to collaborate with one another through code reviews, creating branches from master repositories and pushing back changes into master branch, reviewing one another’s code to ensure the code follows best coding standard and practices. I have also worked and communicated very effectively with stakeholders on different internship projects using SCRUM, participated in meetings ranging from standup meetings to spring reviews, spring planning and spring retrospective where we discuss different ways of handling bugs and defects in code. I have gained enormous skills on a project in CS-320 (Software Test, Automation & QA), where I learned different techniques of performing software test and automation. In data structures and algorithms, I took CS-260 (Data structures & Algorithms) and CS-340 (Client/Server Development) where I leaned different programming languages including python and java, and also worked on an existing code by enhancing it to create an industry standard report for stock market securities information. Considering software design/engineering, I worked on a project to create a 3D model kitchen chair using modern OpenGL software, applying different textures and lighting to the object. In databases, I have worked on an existing database to write SQL queries to create, insert, retrieve and delete specific records from different tables using different types of join. On security, I took CS-305 (Software Security) where I learn how to troubleshoot, identify and mitigate vulnerabilities in a software project. For example, in this project, I used the dependency check report tool to identify vulnerabilities in an existing code and find out strategies for mitigation.

In summary, my artifacts presented in GitHub fit together and inform my portfolio by integrating the knowledge and skills I have developed in different areas throughout my computer science program ranging from software design/engineering, algorithms and data structures to databases. The artifacts have demonstrated strategies for building collaborative environments, provided ways that solve given problems using algorithmic principles while managing the trade-off involved in design choices, and provided skills and practices for implementing computer science solutions that deliver value and accomplish industry specific goals.

In software design/engineering category, the artifact I choose demonstrates the skills and abilities I have developed that have shaped my computer science goals and values. These skills and abilities include, utilizing organized geometry to ensure that polygons on a 3D model object are well spaced and connected, giving a low-polygon representation of the real-world object, being able to navigate a 3D model object through input devices such as keyboards and mouse on different orientations, creation of computational graphics and visualization using modern OpenGL software, and the skill to create interactive graphics applications that respond to input devices as well.

In data structures and algorithm category, my artifact called a reporting service for a basic stock market securities information using Restful API web-based protocol & MongoDB showcase my talents and abilities in using MongoDB import tool to create and inserts documents into a database collection. The ability to use CRUD operations to create, retrieve, update and delete documents from a collection and the talents to implement a Restful API call using functions and CRUD operations on a database. It also demonstrates the value of applying comments in a piece of software that makes it easier to read and understand.

The category databases showcase my talents and skill sets in using a real-world scenario of an existing database to ensure the integrity and functionality of programs by identifying and correcting syntax errors in SQL queries. The skills to apply proper SQL syntax to retrieve, sort, and restrict data from a database, develop and combine data from multiple sources using SQL statements and logical data manipulation and management techniques can be evident in the artifact. Being able to perform accurate calculations by aggregating data and applying SQL summary functions and assessing the functionality of embedded SQL statements, functional calls and stored procedures within different scenarios is also demonstrated by this artifact. These skill sets and talents explained above can be evident in the various categories of artifacts listed below alongside the narrative that describe each artifact.