# Professional Self-Assessment

Completing my coursework throughout the program and developing my ePortfolio has significantly contributed to showcasing my strengths, shaping my professional goals and values, and enhancing my employability in the computer science field. This journey has equipped me with a well-rounded skill set essential for thriving in Healthcare IT and beyond.

**1. Collaboration and Communication**

Throughout my program, I had the opportunity to work on milestones, which allowed me to develop strong self-management and problem-solving skills. For each artifact, which is highlighted in my ePortfolio, I engaged in a structured process of submitting milestones and receiving feedback from my professor. This approach not only refined my technical abilities but also enhanced my capacity for self-directed learning and improvement.

**2. Data Structures and Algorithms**

In the Algorithms and Data Structures portion of my coursework, I worked on a patient's scheduling system where penalties for appointments were calculated, based on how far away the doctor’s next scheduled time was from the patient’s appointment time request. This portion of the project allowed me to apply and deepen my understanding of various algorithms and data structures, such as queues and priority queues, to efficiently manage scheduling and penalty calculations.

**3. Software Engineering and Design**

For the Software Design and Engineering category, I developed an "Edit Medical Record" feature, which involved designing user-based roles within the healthcare system. This involved designing and managing different user roles such as doctors, nurses, patients, and office administrators – each with specific permissions and functionalities. In creating this, I ensured that each role had the appropriate access levels and capabilities.

**4. Databases**

In the Databases section, I utilized MongoDB to manage patient records and other critical data within the Python Django framework. The integration of MongoDB into Django involved configuring the database to handle complex and varied data types – which is essential for managing healthcare records.

To enhance HIPAA compliance, special attention was given to securing sensitive patient information. This included implementing encryption for data at rest and in transit, applying strict access controls to ensure that only authorized personnel could access sensitive data, and regularly auditing database access and changes to maintain data integrity.

By focusing on these aspects, I ensured that the healthcare system not only met technical requirements but also aligned with regulatory standards for protecting patient data. This experience highlighted my ability to manage modern database solutions within the context of regulatory compliance and secure data handling.

**5. Security**

Throughout my coursework and projects, I have placed a strong emphasis on security. For instance, I ensured that sensitive patient information was handled securely and implemented best practices for data protection. My focus on security aligns with my goal of pursuing advanced studies in cybersecurity, where I aim to further develop my expertise in safeguarding digital systems and data.

**Summary and Introduction to Artifacts**

My ePortfolio presents a collection of technical artifacts that showcase my skills and capabilities in computer science. These artifacts reflect my comprehensive understanding of key areas such as software design, algorithms, databases, and security.

The "Edit Medical Record" project demonstrates my proficiency in software design and engineering by focusing on implementing user-based roles within a healthcare system. This project highlights my ability to develop a backend system that effectively manages different user permissions and roles, ensuring secure and efficient access to medical records.

The patient scheduling system, which includes penalty calculations, illustrates my expertise in algorithms and data structures. This project emphasizes my capability to design and implement efficient algorithms for managing scheduling conflicts and penalties, showcasing my problem-solving skills and ability to optimize performance.

The MongoDB database integration, used in conjunction with Python Django, highlights my understanding of modern database management and security practices. This artifact showcases my ability to implement a scalable and flexible database solution while ensuring compliance with HIPAA regulations for protecting sensitive patient information.

Together, these artifacts provide a holistic view of my technical talents and abilities, demonstrating my readiness to contribute effectively to the computer science field and advance in my career. They reflect a well-rounded skill set that includes software engineering, algorithm design, database management, and a strong commitment to data security and compliance.