Two emerging and disruptive technologies that are shaping the future are quantum computing and generative AI. Quantum computing uses qubits that can represent multiple states at once, allowing it to solve complex problems far faster than traditional computers, which could revolutionize fields like cybersecurity and AI itself. Generative AI creates realistic text, images, and other content by learning from immense datasets, and it is being used to automate creative tasks, enhance decision making, and create personalized user experiences. In computer science and my career, quantum computing could open new opportunities in algorithm design and optimization, while generative AI could streamline software development and user interface design. On a global scale, quantum computing could help tackle major challenges like predicting climate change more accurately and speeding up drug discovery. While generative AI could make education, healthcare, and communication more accessible. However, both technologies can bring up ethical and security concerns that will require careful regulation. At this point in the course, I think the course outcomes I have achieved so far are “demonstrating 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”

**Status Checkpoints for All Categories**

| **Checkpoint** | **Software Design and Engineering** | **Algorithms and Data Structures** | **Databases** |
| --- | --- | --- | --- |
| **Name of Artifact Used** | **Artifact name:** Unit Test Project  **Origin:** CS 320: Software Testing, Automation, and Quality Assurance | **Artifact name:** Hashtable chaining + sorting Project  **Origin:** CS 300: Data Structure and Algorithms: Analysis and Design | **Artifact name:** Unit Test Project  **Origin:** CS 320: Software Testing, Automation, and Quality Assurance |
| **Status of Initial Enhancement** | Enhancements Completed | Enhancements Completed | Enhancements Completed |
| **Submission Status** | Submitted | Submitted | Submitted |
| **Status of Final Enhancement** | Feedback was applied | Feedback applied | Feedback applied |
| **Uploaded to ePortfolio** | Planned but not yet completed | Planned but not yet completed | Planned but not yet completed |
| **Status of Finalized ePortfolio** | Planned but not yet completed | Planned but not yet completed | Planned but not yet completed |