SHAN MALIK www.linkedin.com/in/shan-malik-

New Jersey, USA - http://shanportfolio.tech

Education

Rutgers University-New Brunswick. Bachelors in Computer Science, expected Date of Graduation - May 2024, GPA: 3.4

Projects

http://shanportfolio.tech

- Created a personal portfolio website using HTML, CSS, and JavaScript. The website includes an "About Me" section that highlights my skills, education, and experience, a "Courses, and Objectives" section that lists the courses I have taken and the projects I am currently working on, a "Project Portfolio" section that showcases my projects with descriptions and links to their GitHub repositories, and a "Contact Me" section with a form for users to submit and I receive the data on a Google Sheet.

Kindergarten Class Simulation

- Created a simulation for a kindergarten class with students starting at an initial singularly link list. The simulation allowed for options such as seating the students in a 2D array based on availability, moving them into a circular linked list for a game of musical chairs, playing the game, and returning the students to their proper seats based on the game's winner. The simulation also had options to add or delete students from any of the data structures utilized.

Conway Game of Life

- Created an implementation of John Conway's Game of Life. The program allows users to input the size of the 2D grid board. Wrote methods that identify live cells and their neighbors, compute the grid's new generations according to the game's rules, and count the number of communities using union functions. It also receives text input from the user to create the 2D array board.

Text File Compression (Huffman's Algorithm)

- Developed a text file compression program utilizing Huffman's algorithm. Constructed and modified a binary search tree that reflected all the characters in the input file, ordered by their frequency of occurrence. Designed and managed queues to form the Huffman Tree. The tree was then traversed to create an array of "encodings" representing the characters used in the text file, which were used to both encode and decode the file.

Warehouse Simulator

- Create a warehouse represented by an array of sector objects. Each sector is organized using a min binary priority queue based on the last day that products were purchased. I implemented a method that adds products to their proper sector based on their ID. I also implemented a restock/purchase method that adjusts the number of items a particular product has in its sector while maintaining the min binary heap structure.

Directed and Undirected Graphs Simulations

- Create and manipulate undirected and directed graphs, and implement Dijasata's algorithm to find the shortest path from our first vertex to the last. Have a method that deletes half of the vertices in a graph and tells if the graph is still connected or not. Find the number of possible paths in a graph from the first to the last vertex.

Work Experience

Staples of South Plainfield, NJ, **Retail Sales Technology Associate**, July 2022 - Aug 2022

- Offer customers basic tech assistance and suggestions for their personal computers, printers, and other devices. Advise customers on which computers, printers, and accessories would meet their needs if they needed any help, as well as inform them of in-store warranties and other paid services offered by us.

Accurate Diagnostics Labs in South Plainfield, NJ, **Specimen Processor**, Dec 2021 - Jan 2022

- Process COVID-19 tests into company systems during the peak of the pandemic. Collaborate with other employees to efficiently manage and safely store COVID-19 test samples while keeping up with the rapid influx of tests and positive cases in the tri-state area. Introduce patient data into company systems and update current patient data in our company systems as necessary.

Skills and Interests

Programming Languages: Java, Python, C, SQL, HTML/CSS, JavaScript, JavaFX

Software + Skills: Microsoft Word, Excel, PowerPoint, Google Docs, Sheets, Slides, Adobe Photoshop, PC Building experience

Interests: Artificial intelligence, machine learning, internet privacy, VR and AR technologies, basketball, gaming, and investing