Martel Vasquez

Fairfax, VA 22030

703-649-1479

MartelVasquez31@gmail.com

EDUCATION

- [George Mason University](#), Fairfax, VA
- Bachelor of Science in Computer Science, Minor in Software Engineering
- Anticipated Graduation: May 2025
- GPA: 3.75
- Dean's List, George Mason University: Spring 2024, Summer 2024

RELEVANT COURSEWORK

- Data Structures & Algorithms, Secure Programming and Systems, Formal Methods & Models, Computer Systems & Programming, Object-Oriented Programming, Intro to Low-level Programming, Essentials of CS, Calc 1, 2, & 3

TECHNICAL EXPERIENCE

- **Java**
  - **Tetris Game**: Developed a Tetris game using a 2-D dynamic array to manage game elements efficiently, increasing game performance by 25%.
  - **Cache Simulator**: Created a cache simulator utilizing linked lists and HashMap to model FIFO, LFU, and LRU cache strategies, reducing cache retrieval times by 20%.
  - **Image Processor**: Implemented an image processor that uses the Quadtree data structure to efficiently process and manipulate images, including converting PGB images and exporting them after alterations.
  - **Bellman-Ford Algorithm Simulator**: Developed a simulator to compute the shortest path in a weighted directed graph, showcasing proficiency in algorithm implementation and graph theory.
- **C**
  - **Otur CPU Scheduler:** Developed a pivotal CPU scheduler component within the StrawHat Virtual Machine. This included process initialization, insertion, removal, and state management, managing three linked list queues to effectively prioritize and handle processes. Improved scheduling efficiency by 30%.
  - **Shell and Buffer Management System**: Created an interactive command-line interpreter that emulated a shell, utilizing programming concepts such as forking child processes, executing programs, signal handling, file redirection, and pipes.
- **Python**
  - **Student Profile Management System**: Developed a system that implements functionalities for reading, creating, updating, and deleting student profiles using file I/O operations and dictionaries, collaborating with a utility module. Reduced data retrieval time by 15%.

WORK EXPERIENCE

- **Footwear Associate, Dicks Sporting Goods, Fairfax, VA (August 2021 - Present)**
  - Improved communication and selling skills and helped increased sales by 20%.
  - Helped boost positive reviews of the store by 10% by providing excellent customer service.

GitHub – Projects (Private for School Privacy)