James Torres

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Technical Skills

Programming Languages: Java, Python, SystemVerilog, RISC-V ASM
Tools: Git/Github, Vivado, UML documents

Technical Projects

PacMan Game Remake (https://github.com/jam-kt/PacMan)   **Sep 2023**

- Developed a custom 2D game-engine using Java and the Java Swing library, emphasizing object-oriented design for a scalable and maintainable codebase
- Built and utilized the A* heuristic algorithm for intelligent and real-time entity pathfinding
- Implemented a 2D array to represent the game's playable area and manage entities in an efficient and modular manner

FPGA Digital Kitchen Timer (Digital Design class project)   **Aug 2023**

- Designed and implemented a versatile kitchen timer with variable input, start, and reset functionality
- Used SystemVerilog to describe and connect hardware modules, including Finite State Machines & Counters
- Collaborated effectively with a partner to create and iteratively refine a detailed low-level structural diagram

Huffman Encoder (Data Structures class project)   **Mar 2022**

- Created a Huffman Encoder using Python to read, compress, and write data to a text file
- Implemented a custom min-heap data structure and nodes to create an efficient priority queue representing the huffman tree

Ray Casting Model (Introductory Computing class project)   **Nov 2022**

- Used Python to render 3D spheres in variable lighting as a static 2D image
- Implemented representations of geometric vectors and points using Python classes
- Implemented command line arguments to accept user input for program variables

Education

California Polytechnic State University. San Luis Obispo, CA   **2022 - 2026**
BS Computer Engineering. GPA: 3.79

Coursework: Introductory Computing, Data Structures, Java & OOP, Intro to Digital Design, Assembly & Computer Design. Calculus (Multivariable), Linear Algebra & Differential Equations.
Future Coursework (By Summer '24): Systems Programming in C, Discrete Structures, Computer Architecture, Electronic Circuits

Involvement & Work Experience

Swimming & Volunteer Coaching   **2016 - 2022**

- Volunteer coach for city swim club. Worked with younger kids in the water to demonstrate technique (2hr/wk)
- Volunteered at local and travel swim meets as a timer/hospitality (4hr/month)
- 4 Year Varsity Athlete
- 2x Sierra Nevada Swimming Scholar-Athlete

City Of Vacaville Parks and Recreation | Lifeguard & Swim Instructor   **June 2020 - Dec 2022**

- Interact with patrons and enforce water-safety rules.
- Create curriculum for and instruct group swimming lessons for children and adults.