

# James Torres

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## Technical Skills

**Programming Languages:** Java, Python, SystemVerilog

**Tools:** Git/Github, Vivado, UML documents

## Technical Projects

### PacMan Game Remake (<https://github.com/jam-kt/PacMan>)

Sep 2023

- Used Java and the Java Swing library to create a custom 2D game-engine
- Used A\* heuristic algorithm for in game entity pathing
- Used a 2D array to represent the game's playable area and keep track of entities
- Strictly adhered to OOP principles

### FPGA Digital Kitchen Timer (Digital Design final project)

Aug 2023

- Designed and implemented a kitchen timer with variable input, start, and reset functionality
- Used SystemVerilog to describe and connect hardware modules such as a FSM and Counters
- Worked collaboratively with a partner to draw and iterate on a low-level structural diagram

### Huffman Encoder (Data Structures class project)

Mar 2022

- Used Python to create a Huffman Encoder that reads, compresses, then writes to a text file.
- Created a custom min-heap data structure and nodes to implement a priority queue

### 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.