Zeckria Kamrany

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EDUCATION

University of California, Los Angeles **Expected Graduation: 2025**
B.S. Computer Science *GPA: 3.95*
Upsilon Pi Epsilon, Tau Beta Pi

Coursework: Computer Systems Architecture, Software Construction Laboratory, Intro to Algorithms and Complexity, Computer Networking, Operating Systems Principles, Programming Languages, Probabilistic Models in Computational Genomics, Algorithms in Computational Genomics

WORK EXPERIENCE

UCLA ZarLab **Los Angeles, CA**
Undergraduate Researcher *June 2024 - Present*

- Developing a computer vision tool for an OpenTrons OT-2 machine, moving one step closer to having an autonomous robot that can operate 24/7 in a UCLA Health research lab
- Deploying the FastSAM model to segment the labware from live video of the robot and feeding cropped images into YOLO v8 for image classification to correctly identify the labware and its position in the deck
- Accelerating research at UCLA Health by notifying lab technicians if they have placed the labware correctly within the machine

Private Tutor **Los Angeles, CA**
Math Tutor *Jun 2022 - May 2024*

- Developed students' mathematical intuition and honed their critical thinking skills
- Conducted one-on-one sessions to evaluate student progress and understanding of material
- Tutored students in all levels of math up to and including pre-Calculus

PROJECTS

TunnelMan Language: **C++**

- 2-D game that updates in real-time with level-based progression, basic objective completion, and a point system that took over 2.4k lines of code
- Implemented high-quality object-oriented programming practices to establish interactions between different characters in the game
- Developed a maze-searching algorithm to find an optimal path from the enemy characters to the user's character, the tunnel man

HTTP Server Language: **C**

- Utilized socket programming to handle client TCP connections and serve HTTP requests
- Parsed incoming HTTP requests to extract file paths and served requested files
- Managed socket and file descriptor lifecycle, ensuring proper closure to avoid resource leaks

Genome Assembler Language: **Python**

- Assembled genome from set of reads that contained mutations and sequencing errors
- Deployed de Bruijn graphs and Eulerian pathfinding to reconstruct a genome
- Reconstructed the genome by traversing the graph and combining the k-mers

Shuf Language: **Python**

- Built the shuf command from Bash using Python
- Program generates random lines from a given file and outputs them to standard output
- Implemented with command-line options e, i, n, r using argparse in Python

SKILLS

Languages: Python, C++, C, HTML, CSS, JavaScript, TypeScript, Matlab, bash, Java, Verilog
Technologies: Git, Docker, Linux, React.js, Oracle VM
Hardware: Basys 3 FPGA, Arduino