# Zeckria Kamrany

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## EDUCATION

**University of California, Los Angeles** **Expected Graduation: June 2026**
*M.S. Computer Science*

**University of California, Los Angeles** **Expected Graduation: June 2025**
*B.S. Computer Science* *GPA: 3.94*
Upsilon Pi Epsilon, Tau Beta Pi

**Coursework:** Intro to Computer Science I & II, Intro to Computer Organization, Software Construction Laboratory, Intro to Algorithms and Complexity, Computer Networking, Operating Systems Principles

## WORK EXPERIENCE

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

- Developing cutting-edge computational genomics algorithms in the field of metagenomics: study of whole genomes of biological communities
- Building on top of SwabSeq technology, a high-throughput sequencing platform used for COVID-19 testing able to process up to 25,000 tests per day
- Working toward creating algorithms to create a virus agnostic test that can check for any RNA virus

**Private Tutor** **Remote**
*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**

- Created 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, Oracle VM
**Hardware:** Basys 3 FPGA, Arduino