

Aditi Thanekar

📞 510-556-7315 ✉ athanekar@ucsd.edu 🌐 aditithanekar.github.io 🐙 [aditithanekar](https://github.com/aditithanekar) 🌐 [aditi-thanekar](https://aditi-thanekar.github.io)

Education

University of California - San Diego

MS in Computer Science

La Jolla, California

September 2025 - December 2026

University of California - Riverside

BS in Computer Science, GPA: 3.76 / 4.0

Riverside, California

September 2022 - June 2025

Experience

Lawrence Livermore National Laboratory

Computing Intern - National Ignition Facility | C++, CUDA, Linux, RAJA, GDB

Livermore, California

June 2024 - Present

- **Summer 2025:** Fixed fundamental GPU execution bugs in RAJA-enabled laser simulation codebase and sped up FFTs
 - * Refactored **3000+** lines of C++ code to resolve device-host pointer issues in GPU loops, enabling stable execution
 - * Achieved **3.1x speedup** on GPU by integrating CuFFTW; migrated to Unified Memory, profiled w/Nsight Systems
- **Summer 2024:** Developed new component with C++ to group existing laser simulation components
 - * Reduced Qt cold start time by **30%** and enabled reuse of component chains to cut pipeline creation time by **60%**
 - * Incorporated into the March 2025 **production release**.
- Collaborated closely with physicists to translate scientific requirements into testable features to meet research goals
- Authored LaTeX documentation, led live training for ~20 users, and presented work at poster symposium

Systems Optimization + Computer Architecture Lab

Undergraduate Researcher - GPU Computing | Advisor: Daniel Wong

Riverside, California

January 2025 - June 2025

- Ported MiniFE, an open-source finite element analysis code, from CUDA to AMD HIP for compatibility across GPUs
- Debugged race conditions and segmentation faults using cuda-gdb and rocgdb to trace memory errors
- Investigated warp divergence and memory coalescing inefficiencies through profiling tools (nvprof, rocprof)

University of California, Riverside

Chief Grader | Data Structures and Algorithms - Professor Patrick Miller

Riverside, California

April 2023 - June 2025

- Managed gradebook for **1000+** students, and directed tasks amongst 12 people ensuring timely release of grades
- Reduced input time from **1 hr to 7 min**/assignment, by creating Python program mapping scores to Canvas gradebook
- Conducted **200+ C++ code reviews** and live demos, assessing readability, efficiency, memory usage and best practices

Projects

Ray Tracer | C++, Valgrind, GDB

- Implemented ray tracer able to intersect spheres, planes and triangle meshes in 3D plane and render to a 2D image
- Integrated multiple shaders: flat, Phong(diffuse, specular, ambient), reflective, transparent, and texture mapping

Packaroo Express | Python, Tkinter

github.com/aditithanekar/packarooExpress

- Devised solution to minimize crane movement for loading, unloading, and balancing containers at a port using A* search
- Developed and integrated a Python backend with a Tkinter GUI for interactive container operations with visualizations

Noa | Flutter, Firebase, EmailJS, Git, GitHub

devpost.com/software/noa-42yenr

- Built mobile app to locate businesses, schedule appointments, send email confirmations, and secure Firebase Auth login

My Favorite Story | C++, Git, GitHub, Valgrind, GTest

github.com/aditithanekar/My-Favorite-Story

- Implemented classes & tests for adventure game, debugged with Valgrind; led scrum meetings, delegating tasks among 4

Leadership

Girls Who Code

President/ WHS Hackathon Director

Fremont, California

August 2020 - June 2022

- Created 9 lesson plans and taught web development at meetings to over 25 members using HTML, CSS and Figma
- Organized and emceed a school-wide hackathon for online(2021) and in-person(2022) and mentored groups

Technical Skills

Languages: C++, Python, Java, CUDA, HIP, HTML, CSS, R, Swift, Flutter,

Developer Tools: Git, GitHub, VSCode, GTest, Firebase, GDB, Nsight Systems

Design Tools: Adobe Illustrator, Figma, SolidWorks, Autodesk Maya

Relevant Coursework: Parallel Programming, GPU Programming, Computer Graphics, Computer Architecture, AI