Andy Li

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OBJECTIVE

First-year PhD student in Computer Systems seeking a Software Engineering Internship for Summer 2026. Committed to applying research in GPU architecture and parallel algorithms to real-world engineering challenges.

EDUCATION

University of California - Riverside *September 2025 - Present*
Ph.D. Computer Science *Expected Graduation: 06/30*

- Advisor: Dr. Hung-Wei Tseng

University of California - Riverside *September 2021 - December 2024*
B.S. Computer Science *GPA: 3.96/4.0*

EXPERIENCE

Extreme Scale Computer Architecture Laboratory [ESCAL] at UCR *June 2024 - Present*
Undergraduate Research Assistant / Ph.D. Student *Advisor: Hung-Wei Tseng*

- Devised novel CUDA OptiX kernels to repurpose Ray-Tracing Accelerators for general-purpose computing, accelerating Gradient Boosted Forests and Multiple Sequence Alignment
- Designed matrix-semiring based algorithms to parallelize previously hard to parallelize graph problems for AI/ML accelerator equipped clusters
- Developed applications implementing the proposed algorithms using CUDA and MPI to parallelize workloads on multiple machines with NVIDIA's Tensor Cores

UCR Parallel Algorithm Lab *April 2023 - March 2024*
Undergraduate Research Assistant *Advisors: Yan Gu, Yihan Sun*

- Designed a new algorithm that enables thread-level parallelism and reduces the search space in point-to-point shortest path problems
- Implemented the proposed algorithm using ParlayLib and evaluated on a 96-core machine across a variety of social, road, and synthetic graphs, achieving 1.92× average speedup

University of California - Riverside *January 2023 - December 2024*
Reader / Grader

- Graded work as well as helped students during office hours for Algorithm courses

PROJECTS AND ACHIEVEMENTS

Competitive Programming ICPC *2022-2023*

- Teamed with two other students to write programs that solve algorithm problems quickly using C++ and Python
- Qualified for ICPC NAC (North American Championship) by placing top 5 in the Southern California Regional
- Ranked as Champion in UCR programming contest, where 109 teams competed

Quizlet's Game On! - 1st Place Winner (Match n' Bash) *October 2023*

- Developed an educational game where players match flash cards to defeat enemies
- Used React, Javascipt, and Phaser game engine
- Received 1st place with USD 25,000 award
- Demo: https://quizlet-game-game.vercel.app/game

Cutie Hack 2021 - 1st Place Winner (Space Slimes) *November 2021*

- Worked in a group of three to create a bullet-hell game using Unity and C#
- Implemented object pooling to avoid reallocating memory for bullets during game play
- Received 1st place within 142 participants
- Demo: https://doublebrackets.itch.io/cutie-hack-2021-project

SKILLS

- **Coding Languages** - C++, CUDA, OptiX, Python, C#
- **Web Development** - React, JavaScript
- **Other** - bash/command line, git