Josh Cross
Student & Tutor

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WORK EXPERIENCE & PROJECTS

Undergraduate Tutor
January 2021 – Present

UCSD Computer Science & Engineering Department, San Diego, CA
- Refined my knowledge of computer science topics, including data structures, algorithms, and debugging
- Gained formal experience teaching classes of up to 500 students
- Supported other students to succeed in key courses for their major

Game Development Project - Chairiots
March 2022 – June 2022

Project - CSE 125, San Diego, CA
- Created a 3D, 4 player, real time multiplayer racing game without an engine in 9 weeks on a team of 6
- Programmed at an engine level, adding APIs exposing details to higher level code
- Designed and implemented dozens of game features into code
- Investigated and worked with code other members wrote

Undergraduate Researcher
June 2021 – June 2022

UCSD Computer Science & Engineering Department, San Diego, CA
- Researched COVID-19 genomics to aid UCSD's pandemic efforts
- Familiarized myself with an outdated codebase and reimplemented algorithms in Python to overcome its limitations
- Optimized the algorithms, resulting in a 6-10x speedup and >10x reduction in memory usage
- Wrote a paper summarizing my work as my Undergrad Honors Thesis

Game & Software Developer
August 2019 – February 2021

Pluto.gg, San Diego, CA (remote)
- Worked to expand a 3D multiplayer game's content for a community's detective-looter shooter with over 1,500 unique players
- Gained experience working in a professional development team environment of 5+ members, including source code management
- Gained practical skills in game and web development
- Collaborated on a large scale programming project, gaining experience dividing work, integrating solutions, and asking for help when needed

GenCyber Cybersecurity Camp
June 2018 – June 2018

GenCyber Camp @ University of San Diego, San Diego, CA
- Awarded a scholarship by the NSA to participate in the GenCyber Cybersecurity camp, which taught the fundamentals of cybersecurity to a limited number of selected high school students
- Won 2nd place at the camp's competition, where I found a weakness in the world's cybersecurity, came up with a realistic solution to it, and presented it to a panel of industry professionals as part of a team of 4

EDUCATION

UC San Diego
Master of Science
In Computer Science
San Diego, CA
January 2023 — March 2024 (projected)

UC San Diego
Bachelor of Science
In Computer Science
Major GPA of 3.7
Graduating with Honors
San Diego, CA
September 2019 — December 2022

SKILLS & KNOWLEDGE

Programming Languages:

- C
- C++
- CSS
- Go
- HTML
- Java
- JavaScript
- Lua
- PHP
- Python
- Rust
- SQL

Programming/Coding:
- Algorithms
- CI/CD Pipelines
- Collaborative Development
- Critical Thinking & Problem Solving
- Data Structures
- Databases
- Debugging & Testing
- Game Design
- Learning programming languages
- OOP & Functional Programming
- Software development life cycle
- Technical Investigations

Social:
- Attention to Detail
- Collaboration
- Leadership
- Mentoring
- Public Speaking
- Strong Communication
- Time Management

Hobbies & Interests:
- Community moderation
- Crochet
- Game Development
- Music
- Pets
- Puzzle Games
- Theater