

# Adarsh Patel

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## EDUCATION

### University of California, San Diego

La Jolla, CA

*Bachelor of Science in Computer Science*

*Expected June 2024*

- **Relevant Coursework:** Software Engineering, Computer Graphics, Full-Stack Web Development, Principles of Computer Operating Systems, Introduction to Computer Security, Principles of Databases
- **GPA:** 3.73

### Cypress College

Cypress, CA

*Associate Degree for Transfer in Computer Science*

*Aug 2020 – May 2022*

## EXPERIENCE

### Cypress College

Cypress, CA

*Calculus II Supplemental Instruction Leader*

*Jan 2022 - May 2022*

- Tutored over 40 students by hosting two two-hour sessions weekly improving test scores **by 20%**.
- Created handouts, problems and practice tests to help students broaden their understanding of calculus.
- Provided support daily through Discord and email increasing the number of questions asked by students.

## PROJECTS

### Origami Fortune Teller | *HTML, CSS, JavaScript*

April 2023 – June 2023

- Led a team of 9 developers through the development life cycle of an Origami fortune teller web application using **HTML, CSS** and **JavaScript**.
- Utilized **Git** and **GitHub** extensively for maintaining version control and a robust **CI/CD** pipeline integrating **linting**, the **Code Climate** quality checker, a manual pull request review, automated testing using **Puppeteer** and **Jest**, and **JSDocs** for streamlined development and deployment.
- Practiced **Agile** and **Scrum** methodologies, including brainstorming, wire-framing, user personas, sprint reviews, retrospectives and daily stand-ups to foster collaboration and maintain project momentum.

### Analytics Dashboard | *HTML, CSS, Node.js, PHP, MySQL*

April 2023 - June 2023

- Created a web server using **Apache** and **Digital Ocean** to track and visualize user's static, performance and activity data.
- Implemented a **RESTful API** using **Node.js** to store and retrieve user data efficiently from a **MySQL** database.
- Developed an authentication system using **HTML, CSS**, and **Node.js**, incorporating **JWT** authentication to provide secure access to a dashboard.
- Utilized **PHP** to extract data from a **MySQL** database, enabling authenticated users to perform **CRUD** operations on an user management grid and interactive charts powered by **ZingChart** and **ZingGrid**, providing insightful capabilities.

### Boids Animation | *C++, OpenGL, GLSL*

Sep 2023 - Dec 2023

- Developed an algorithm to render 2D and 3D objects using **C++** by transforming triangle meshes in **JSON** and **PLY** files from object space to screen space.
- Optimized rendering pipeline using **OpenGL** and **GLSL** improving render times by **over 200%** on custom created objects in **Blender** with millions of triangle meshes.
- Implemented advanced features using **GLFW** including lighting and an **user-interactive camera**, enhancing visual quality and providing an immersive experience through interactive camera movements.
- Created a basic **animation**, based off the concept of boids by using two **fragment shaders** and multiple force equations in **Shadertoy**.

## TECHNICAL SKILLS

**Languages/Frameworks:** JavaScript, HTML/CSS, C++, Java, Node.js, GLSL, Python, MySQL, PHP, Jest/Puppeteer, SystemVerilog

**Developer Tools:** Git, Linux, Visual Studio, OpenGL, Blender, ModelSim, Quartus, DESim