

Sahil Gathe

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EDUCATION

University of California San Diego,
Bachelor of Science in Computer Science

La Jolla, CA
Sept. 2021 – June 2025

EXPERIENCE

UC San Diego Center for Energy Research

Oct. 2024 – Apr. 2025

Student Software Engineer

San Diego, CA

- Shipped a cross platform educational mobile application amassing 100+ downloads. Adopted by the UCSD Center of Energy research as a method to showcasing new research. By developing frontend UI using the **React Native** framework.
- Rapid-prototyped a educational game to improve science communication to younger audiences which was meet with positive reviews by user testers, by implemented and building a functional prototype with all major features in one weekend and deploying a **webGL** build to itch.io for easy user testing.

Center for Health Design

July 2024 – Dec. 2024

Software Engineering Intern

San Diego, CA

- Engineered a AI-driven AR interaction system which was integral for the functional prototype showcased at the San Diego World Design Conference 2025 by building a scalable communications parser. This allowed our custom large language model to trigger **Unity** function via tool-calling **WebSocket API endpoints**.
- Designed and implemented a local cache database in **MongoDB** to enhance the contextual accuracy of our custom LLM, by creating **CRUD API** endpoints.

CLUBS

Design Co

Feb. 2024 – June 2025

Web Developer & Board Member

San Diego, CA

- Developed and launched 4 event for major campus events which reached over 500+ students and for events featured recruiters from Google, Epic and Deloitte by collaborating with a team interdisciplinary designer, marketers, and developer using frontend frameworks, **React + Vite/Next.js**, **Tailwind**, and **Vercel** for deployment.
- Organized, designed, and led 5 technical workshops, attracting 60+ in-person attendees, by teaching web development fundamentals, creative coding, and introductory game design using the **Godot** game engine.

PROJECTS

GMTK Game Jam : Perpetua | *Godot, Python, GDScript*

Aug. 2025

- Design and developed a game for the GMTK game jam in 96 hours with a team of 3, landing in the top 10% of rankings out of 9643 entries with primarily positive feedback. Leveraged the **Godot** game engine with **GDScript** to develop game mechanics, and Block Bench and Procreate to design 3D assets. .

ML Ambient Music Generator | *PyTorch, Python, Jupyter Notebook*

March 2025

- Developed an end-to-end neural music generation pipeline, producing listenable music with recognizable characteristics of genera by training an **LSTM machine learning** model on per-processed midi data using **PyTorch**.

OpenGL Graphical Ray Tracing | *OpenGL, C++*

Feb. 2023

- Built a graphic rendering pipeline with recursive raytracing to render 3D scenes with over 1000 geometries, written in **C++** using **OpenGL**, to implement Blinn-Phong shading, ray surface interactions, and a bounding box acceleration model.

TECHNICAL SKILLS

Languages: JavaScript/Typescript, Python, CSS, HTML, C#, Java, C, C++,

Frameworks: React, WordPress, OpenXR, OpenGL, React Native

Developer Technologies: Git, Docker, MongoDB, VS Code, Unity, Godot, Node.js, express.js, Next.js