

AAYUSH MOTIANI

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EDUCATION

University of California, San Diego

Sep 2022-June 2026

B.Sc in Computer Science

SUMMARY

Detail-oriented Computer Science major with hands-on experience in lab environments, project management, and digital communication. Skilled in maintaining order, managing supplies, and adhering to safety protocols. Eager to apply organizational skills and a keen eye for detail to support Qualcomm Institute's research and collaborative projects.

EXPERIENCE

Gameplay Engineer Intern, *Origami Air Co.*

01/2024-Present

- Led the development and integration of complex drone dynamics and physics algorithms into a custom control system within Unity-VRChat using UdonSharp scripting, showcasing proficiency in software engineering principles.
- Implemented rigorous testing methodologies and iterative refinement strategies to optimize control mechanisms.
- Collaborated effectively with engineers and drone pilots to deliver a cutting-edge virtual reality experience tailored for the Meta Quest 3 platform, highlighting strong teamwork and communication skills in a software engineering context.
- Conducted rigorous testing and iteration cycles to fine-tune control mechanisms, addressing any discrepancies and optimizing user experience.

Research Paper: **Machine Learning**, *Lumiere Education*

6/2022-09/2022

- Developed a machine learning linear regression model using Python and Jupyter notebook to predict future crime locations. I cleaned and processed a large dataset from Kaggle for model implementation and training.
- Reduced the dataset from over 600,000 columns to a manageable 20,000 columns, ensuring efficiency and effectiveness in model training and testing.
- Split the data into train, test and validation sets and tested it for accuracy. Achieved a 56% accuracy in the prediction model.

Visual Design Apprenticeship, *Design Co (College Club)*

01/2023-04/2023

- Utilized Adobe Illustrator and Figma to design several visually appealing and impactful designs on a weekly basis, strengthening my technical abilities and software expertise. Projects included posters, merchandise, UI/UX interfaces and many others.
- Consistency with work helped develop my 'eye' for design.
- Engaged in regular feedback sessions with senior mentors, applying their insights to enhance designs and cultivate a deeper understanding of best practices.

PROJECTS

Game Development Project

06/2023-09/2023

- Built a 2D platformer using Unity and Visual Studio(C#). Programmed intricate player movement mechanics using custom physics, precise collision handling and trigger detection. Added friction, acceleration, variable jump, coyote time, ledge detection and camera shake into the game for an optimized player experience. Also added a combat system, allowing the player to throw and recall an ax, fire a gun and use a melee sword strategically to kill enemies, destroy walls etc., enhancing gameplay dynamics.

VR World Development

10/2023-12/2023

- Created a VR world for meta quest and android called "Space Hunt", available on VRChat, using the Unity Game Engine, the VRChat SDK and API.

SKILLS

- **Languages:** Python, Java, C#, C/C++, HTML, CSS, Javascript, ARM 32-bit Assembly, Markdown, LaTeX
- **Tools/Frameworks:** Unity Game Engine, VSCode, Github, Git, MATLAB, JUnit