

Naitik Poddar

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EDUCATION

Bachelor of Science (B.S.) - Computer Science: Game Design, *University of California, Santa Cruz*

09/2021 – present
Santa Cruz, United States

Double majoring in B.A Economics

Current Standing: Senior

Expected Graduation: August 2025

- **Relevant Courses Completed:** Game Development Experience, Game Technologies, Game Design Studio, Game Systems, Rapid Prototyping, UI & UX Design, Foundations of Game Design, Introduction to Computer Graphics, Fundamentals of Compiler Design, Data Structures and Algorithms, Computer Systems and Assembly Language, Computer Systems and C Programming, Applied Discrete Math, Programming Abstractions in Python, Beginning Python.
- **Collaborative Research Experience in Engineering:** Conducting ongoing research on procedural content generation (PCG) using noise, wave function collapse, and **LLMs for mixed-initiative systems**. Published a workshop paper on **LLM-driven PCG** and developing advanced techniques for **tile-based world generation**. Current work focuses on fine-tuned models and window selection approaches to enhance LLM integration in PCG pipelines..

SKILLS

Game Development — Unity | Phaser.JS | Game Design | Graphics/Shader Programming

Programming Languages — C# | Python | C/C++ | GLSL

Web Development — Javascript | HTML | CSS | WebGL | Typescript | React | Node.js

Design and Tools — Git | Figma | Miro | Agile/Scrum Framework

Data Analysis — R/RStudio | Stata

PROJECTS

Conversational Procedural Content Generation with LLMs,

09/2024 – present

Research Project – FDG 2025, PCG Workshop (ACM Publication Pending) 📄

- **Co-authored** a paper on LLM-driven procedural content generation, **designing two prototypes** in Phaser to test conversational interactions.
- Engineered and validated TinyTownQA, a dataset with **31 procedurally generated maps** and **642 questions**, benchmarking LLM accuracy in spatial reasoning with results up to **89.3% accuracy**, while planning future extensions using **fine-tuned models** and a **window selection approach to enhance PCG interactions**.

"Shooter? I Hardly Know Her", *Capstone Project – Unity3D Online Multiplayer Game (Planned Steam Release)* 📄

- Developed core gameplay systems in **C#**, including **player movement, enemy AI, and animation programming**, optimizing performance for **smooth online play**.
- Designed and implemented a **weapon spawner and swapper system**, enabling strategic mid-match loadout changes; game received an **8.3/10 average rating** across **30 closed playtest sessions**.
- **Trailer** available here 📄

Automanora (Game) 📄

10/2024 – 11/2024

- Engineered core gameplay features, including **player movement** and an **intuitive inventory system**, in **Unity3D using C#**.
- Enhanced **player experience** by **optimizing saving/loading functionality by 20%** and adding polished visual effects.
- Collaborated in a team of five to deliver a cohesive, award-winning project, earning the **"Best Aesthetic" award** as voted by peers for its standout design.

ZDOC (Game) 📄

- Co-created "ZDOC" during an entry level Game Jam in Summer 2022, a **top-down 2D game** in Unity, implementing C# scripts for **enemy tracking, player power-ups, and core mechanics like movement and shooting**.
- Published the game on itch.io 📄, garnering enthusiastic feedback from both fellow participants and reviewers, averaging **4.7 star reviews** from around **100 participants**, highlighting its engaging gameplay and mechanics.

Livance (Web App) 📄

01/2022

- **Collaboratively** contributed to developing the frontend of "Livance," a social health monitoring platform, utilizing **Next.js (React framework), HTML5, and CSS3** within a team setting.
- Overcame challenges as a first-time hacker, focusing on **frontend development** to **implement health event logging and display functionalities**, demonstrating adeptness in **React** and effective **collaborative skills**.

EXTRA-CURRICULAR EXPERIENCES

Competitive Esports Director, *Slug Esports at UCSC*

2022 – present

- Managed two levels of esports teams across multiple titles; participating in various national collegiate tournaments, while consistently achieving top 4 divisional and national placements.
- Collaborated with officers and members to coordinate large-scale community events.