

Spencer Chang – Software Developer

EDUCATION

University of Southern California, Viterbi School of Engineering

Computer Science

GPA: 4.0

Honors: Dean's List (Fall 2020, Spring 2021)

Los Angeles, CA

August 2020–Present

EXPERIENCE

Dreamland Confectionary

Los Angeles, CA

Engineer

September 2021–Present

- Collaborating closely with designers and other engineers to implement gameplay mechanics and fix various bugs through Unity.
- Attending biweekly meetings with development team to discuss sprint planning and task distribution. And weekly labs to collaborate in-person with the rest of the team.

Corpus Callosum (CoCa)

Los Angeles, CA

Technical Lead

September 2020–Present

- Designing and implementing creative generative art programs in *p5.js*. Awarded 1st place in the CoCa Final Project competition.

PROJECTS

DE Grapher – Web Tool

Summer 2021

- Engineered a 1st order differential equation visualizer using the *Godot Engine* (C#).
- Added functionality for customizable graph bounds/step size, Euler's method IVP approximate solution solver, and real-time slope field visualizer. Use the tool [here](#).

King of Rats – Video Game – Engineer and Designer

Spring 2021

- Programmed gameplay mechanics using the Unity (C#) to develop a tower-defense and base-building hybrid game.
- Conducted two playtest sessions (11 players in total) to gauge player engagement and game balance. Collected post-playtest data via player questionnaires to make statistical analysis and visuals to guide design and development. [Project page here](#)

Remnants – Board Game – Designer and Usability Tester

Fall 2020

- Collaborated with team of artists and designers to release a polished physical board game. Regularly met with team to pitch and discuss new ideas for improving game mechanics and balance.
- Organized 8 playtest sessions to gauge player enjoyment and engagement on game mechanics.

Vortex Dodger – Video Game

Spring 2020

- Completed 2D “bullet-hell” game in *p5.js* (JavaScript) with purpose of helping players improve dodging skills.
- Implemented bullet-delivery systems, safe-zone collision detection, and user interface. [Play game here](#).

Kaufman Touhou – Video Game – Engineer, Artist, and Designer

Spring 2019

- Led the creation of a 2D video game. Coded a basic game engine in MonoGame (C#) that allowed for local 4-player gameplay, collisions, physics, animations, and UI.
- Drew pixel art textures and animations for ships, enemies, bosses, cutscenes, and character portraits. [Project page here](#).

Diamond in the Water – Video Game – Engineer, Artist, and Designer

Fall 2019

- Developed a trade-simulator game that demonstrates economy concepts (opportunity cost, comparative advantages, etc). Programmed bonus arcade game mode where bullets travel in the path of macroeconomic curves (Phillip's, Supply Demand, etc). [Project page here](#)

RELEVANT COURSEWORK

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|--|---|---|
| • Multivariable Calculus | • Linear Algebra and Differential Equations | • Introduction to Algorithms and Theory of Computing (In Progress) |
| • Physics (Classical Mechanics, E&M, Thermodynamics) | • Discrete Math | • Introduction to Software Development (In Progress) |
| • Data Structures and Object-Oriented Design | • Intermediate Game Design Workshop | |

SKILLS

Languages C#, C++, JavaScript, Java, *LaTeX*

Frameworks: P5.JS, MonoGame, Node.JS

Software: Visual Studios Code, Visual Studios Community, GitHub, Adobe Photoshop, Krita, Aesprite, Unity, Godot

Spoken Languages: English, Mandarin

Hobbies: Art (Pixel, Pencil, Oil)

MEMBERSHIPS

Member, Alpha Lambda Delta Honor Society

March 2021–Present

Member, Phi Theta Kappa Honor Society

July 2020–Present