**Spencer Chang**

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**EDUCATION**

**University of Southern California, Viterbi School of Engineering Los Angeles, CA**

**Computer Science (Games)** 2020-Present

**Relevant Coursework:** Introduction to Programming, Data Structures and Object Oriented Design, Linear Algebra and Linear Differential Equations, Discrete Math, Intermediate Game Design Workshop

**GPA**: 4.0

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

**De Anza College Cupertino, CA**

**Computer Science**  2019-2020

**Relevant Coursework:** Calculus III, Engineering Physics (Classical, Thermo, and E&M)

**GPA**: 4.0

**Honors**: Dean’s List (Fall 2019, Winter 2019, Spring 2020)

**SKILLS**

**Programming Languages:** C#, C++, JavaScript, Java, GDScript

**Frameworks:** P5.JS, MonoGame, Node.JS

**Game Engine:** Unity, Godot

**Bilingual:** English, Chinese

**LEADERSHIP AND INVOLVEMENT**

**SouthPost Youth San Jose, CA**

Vice-President March 2018 – June 2019

* Organized volunteer activities for the organization and managed/motivated team efforts towards community involvement.

**Study-Buddy Society, Monta Vista High School Cupertino, CA**

Volunteer Tutor February 2018 – May 2018

* Volunteer tutor at a high school program. Tutored high school biology and geometry.

**Member, Phi Theta Kappa Honor Society** July 2020 – Present

**Member, Alpha Lambda Delta Honor Society** March 2021 – Present

**ACADEMIC PROJECTS**

**King of Rats – *Video Game*** Spring 2021

* Worked on a team as a programmer and designer. Programmed in the Unity (C#) to create a tower-defense and base-building hybrid game. More information on project page [here](https://spycemyster.itch.io/king-of-the-rats)

**Kaufman Touhou – Video Game**  Spring 2019

* Programmed in MonoGame Framework (C#) to create a space-themed, 2D shooter game. Developed a basic game engine that allowed for 4-player local multiplayer, collisions, physics, animations, UI. More information on project page [here](https://spycemyster.github.io/projects/kaufmantouhou/).

**Diamond in the Water – *Video Game*** Fall 2019

* Programmed in MonoGame Framework (C#) to create a “bullet-hell” game in which bullet travel in the path of basic economic curves (supply-demand, Phillip’s curve, business cycle, etc). Programmed a game mode that simulates opportunity cost and comparative advantages. More information on project page [here](https://spycemyster.github.io/projects/diamondinthewater/).

**PERSONAL PROJECTS**

**DE Grapher – *Web* *Tool*** Summer 2021

* Programmed a simple 1st order differential equation visualizer through *Godot* (C#). Implemented simple equation “parser” to turn user string input into a math function, implemented Euler’s method to approximate real-time solution curves to given DE’s based on initial values, implemented visualizer for drawing slope fields. Use the tool [here](https://spycemyster.github.io/projects/Grapher/Grapher.html).

**Vortex Dodger – *Video Game*** Spring 2020

* Programmed a simple 2D “bullet-hell” game through the *p5.js* (JavaScript). Programmed particles that travel in linear paths, launcher” objects that fire particles in various ways (shotgun, rotation, dropper), a simple-collision detection system between player and particles, and simple UI for displaying pop-up text. Purpose of game is to improve dodging abilities in games. Play the game [here](https://spycemyster.github.io/projects/VortexDodger/index.html).