

Tate Maguire

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github.com/tatemaguire

Education

University of California, Santa Cruz

- 3rd year pursuing a B.S. in Computer Science: Computer Game Design; Minor in Electronic Music
- Graduating June 2027
- **GPA: 3.95**
- Courses: Data Structures & Algorithms, Computer Systems & C Programming, Assembly Language, Game Dev Experience, Game Dev Patterns, Foundations of Game Design, Game Systems Design, Electronic Music Synthesis, Linear Algebra, Discrete Math, Calculus.

Los Gatos High School

- Graduated June 2023
- **GPA: 4.14**
- 6 AP classes including Physics C: Mechanics (5/5)

Experience

iD Tech

Coding and Game Design Instructor

June 2025 – Aug 2025 (2 months)

- Taught fundamental Python programming concepts to students using individual and group lessons
- Guided students through the process of game design and game mechanic implementation
- Challenged advanced students with topics such as physics simulation and data structures
- Consistently received positive reviews from parents
- Inspired students to pursue STEM careers
- Carefully handled conflicts between students
- Presented class progress to the CEO of iD Tech and the CEO of Battlebots, Inc.

Game Design and Art Collaboration Club

Programmer

Sep 2023 – Now (2 years)

- Designed and implemented UI systems and fixed scene transitions, ability implementations, and VFX for our recent project *Well-Witches* using Unity/C#
- Implemented custom camera movement for our 2024 Mock Studio game *Malisense*
- Practiced the development cycle of 2-week sprints, vertical slices, playtesting, launching, etc.
- Worked with a group of programmers to design technical systems
- Pitched the game *Comic Chaos* at the club's Pitch Night event in the fall

Projects

Tiny Renderer (August 2025)

- Implemented a 3D rendering API in C++
- Used Bresenham's line algorithm and Barycentric coordinates to draw lines and triangles on screen with UV texture mapping and flat shading
- Applied linear algebra to implement perspective projection for accurate rendering of 3D models

Puzzle Game “Ghost” (July 2025)

lexaloffle.com/bbs/?tid=150524

- Developed a minimalist puzzle game in Pico-8
- Carefully crafted interesting and evolving puzzles
- Custom built a particle system as a main game mechanic with complex movement behaviors
- Submitted to the Uni Game Jam 2025

2D Platformer “Pink Yellow Swaparoni” (June 2025)

- Solely developed a game using Phaser.js, a JavaScript game development framework
- Designed and implemented an expansive world for players to explore and discover unique abilities
- Finely tuned player movement to make controls feel natural, snappy, and responsive
- Received feedback from playtesters and implemented changes to improve the game
- Synthesized custom sound effects using VCV Rack

Audio Visualizer (October 2024)

- Used Python and Pygame to create a program that takes in an audio file and generates a graphical visualization of the sound
- Applied digital audio processing concepts
- Created a butterworth low-pass and high-pass filter

Skills

Languages: C#, C++, JavaScript, Java, Lua, Python

Game Engines: Unity, Godot, Pico-8, Phaser.js

Graphics/Math: 3D rendering pipelines, perspective projection, OpenGL shaders, linear algebra

Dev Tools: Git, VS Code, command line

Audio Tools: Ableton Live, Max MSP, VCV Rack

Soft Skills: Adaptability, communication, attention to detail, problem-solving, organization

Interests

Electronic Music

- Pursuing a minor in Electronic Music at UCSC
- Audio engineering and production
- Sound design and foley recording

Other: Piano, Dance, Musical Theater, Pixel Art