

# Zackary Entwistle

zackary\_entwistle@brown.edu | (978) 990-6660 | Northborough, MA

## EDUCATION

### 3rd Year Undergraduate in Computer Science — Brown University

Sep 2019 - May 2023 | Providence, RI

GPA: 3.9/4.0

## WORK EXPERIENCE

### Research Assistant — 3D Animated Short Film, Global Technology

Jan 2022 - Present | Providence, RI

- Creates technical architecture for the 3D animation production pipeline.
- Develops scripts in MEL and the Autodesk Maya Python API in order to automate production tasks and manage file structure on Linux machines.
- Reads Maya API documentation and writes own documentation of my created tools so users can learn how to interact with these new systems.

### Instructor — Brown University Computer Science Department

Sep 2021 - Present | Providence, RI

- Teaches a student-developed course, CSCI 1950U: 3D Game Engines.
- Helps students program a 3D game engine with Qt, C++, and OpenGL, including a physics engine, collision detection, AI systems, and more.
- Develops teaching materials such as lectures with slide decks, project demos, and stencil code to effectively and clearly explain the concepts.

### Executive Board Member — Brown RISD Game Developers (BRGD)

Nov 2020 - Present | Providence, RI and Remote

- Works with a small team of officers to manage BRGD, a preprofessional, student-led videogame development studio with about 70 members.
- Organizes logistics, such as managing the website, liaising with the Brown SAO, facilitating meetings, and allocating management tasks.
- Created a constitution and registered the organization to be officially recognized by the University in order to access \$300 a semester in funds.

## PROJECTS

### Lead Technical Designer — Boogie Brawl

Sep 2021 - Nov 2021 | Providence, RI and Remote

- Boogie Brawl is a two-player rhythm game made with Unity and C#; the game (alongside other BRGD titles) is available at [zentwisty.itch.io](https://zentwisty.itch.io).
- I spearheaded design decisions and pitched fundamental mechanics.
- I lead the sound design team with my expertise in music composition and implemented all of the rhythm game's audio systems in Unity.

### Graphics Software Engineer — Firecracked + CSCI 1230 Raytracer

Sep 2021 - Dec 2021 | Providence, RI

- Firecracked is an interactive animated firework generator made using Qt, C++, and GLSL; it is available at [github.com/zentwisty/firecracked](https://github.com/zentwisty/firecracked).
- The CSCI 1230 Raytracer was coursework for my graphics class; it is a raytracer made using my understanding of the 3D graphics pipeline.
- The raytracer has functionality implemented for reflections, shadows, texture mapping, implicit shapes, and more, all programmed with C++.

## TECHNOLOGIES

### Languages

C/C++, Python, Java, C#, SQL, MEL, GLSL (OpenGL)

### Software

Unity, Maya, MaxMSP, Bash, Adobe, MuseScore, Audacity

### Version Control/IDEs

Git, Qt, VSCode, Visual Studio, IntelliJ, Eclipse

## COURSEWORK

### Computer Science

- Videogame Development
- Computer Graphics
- 3D Game Engines
- Intermediate 3D Animation
- Data Science
- Computer Systems
- Algorithms
- Data Structures

### Mathematics

- Linear Algebra
- Statistics and Probability
- Multivariable Calculus
- Ordinary Differential EQs

## AWARDS

### U.S. Department of State

NSLI-Y Scholarship

### Worcester Telegram

Student Achiever

### UMass Collegiate NAFME

Excellence in Composition

## LANGUAGES

Portuguese (*intermediate*)  
Korean (*intermediate*)  
Spanish (*intermediate*)  
Japanese (*beginner*)