Brett Schiff

Software Developer

https://www.linkedin.com/in/brett-schiff
brettschiff@gmail.com
brettschiff.com
636-233-0949

Languages, Skills and Software:	Proficiency:			Familiarity:		
	C++	Git	SVN	C#	HTML	Agile Development
	C	GitHub	Doxygen	Java	Clang	Linux
	Visual Studio	GNU Compiler	Lua	JavaScript	Unity	Bullet Physics Engine

Academic Projects:

Cat's Cradle (team of 9) **Physics and AI Programmer** **August 2019 - Present**

Cat's Cradle is a 3D, third person puzzle-platformer where the player throws, retracts, and "ziplines" along yarn to solve puzzles and explore levels

- Implemented the Bullet Physics Engine for physics
- Used ImGui to make physics usable in the game's editor
- Implementing a Behavior System using Behavior Trees (In Progress)

Shortstack (team of 6) **Physics Programmer** **August 2017 - May 2018**

Shortstack is a 2D, local co-op, side-scrolling platformer where players are gnomes who stack on each other to combine abilities built in a custom engine made in C++.

- Designed and implemented the physics system in C++
  - Separating Axis Theorem(SAT) for collision detection
  - Utilities: raycasting, debug hitbox display, point collision for particles
- Worked with ImGui to incorporate physics into the game's editor
- Contributed to gameplay programming in Lua – primarily enemy AI

Displayed at PAX West 2018

Relics of Light (team of 4) **Physics Programmer** **August 2016 - May 2017**

Relics of Light is a top-down 2D puzzle-adventure game featuring open-world exploration, puzzle challenges, and unlockable character abilities built in a custom engine made in C.

- Created the physics system in C using SAT for collision detection
- Developed input system using a wrapper around GLFW
- Designed the overworld and all underground puzzles in Tiled

Education:

DigiPen Institute of Technology **Expected Graduation May 2020**

BS in Computer Science and Real Time Interactive Simulation – GPA 3.7

Work Experience:

TA Positions: **September 2018 - Present**

Advanced C/C++	**Algorithm Analysis**	**Data Structures**
September 2018 – December 2018	September 2018 – Present	January 2019 – Present

Primarily holding office hours to help students in the classes and grading assignments/exams.

ProjectFUN **June 2018 - August 2018**

A summer camp offered through DigiPen where game development skills are taught to kids. My roles:

- TA and Lead Teacher in the Video Game Programming 1 course–using Java in a custom engine
- Lead Teacher in the Artificial Intelligence for Games course–AI fundamentals and important related mathematics taught in the Zero Engine

Selected Personal Projects:

Neural Network **December 2017 - July 2018**

A neural network capable of self-training by selection and blending of most fit networks in a population. Current Features:

- Backpropagation, Serialization, and Tests: averaging numbers and playing a simple ASCII game
- Genetic Algorithm incorporation for Reinforcement learning by simulation evolution

Break the Board **August 2018**

A game created for Ludum Dare 42 with the theme *Running out of Space,* developed in Unity. I plan to polish it up a bit more and publish it on the Google Play Store. Of the about 1000 entries in the Compo competition, it was rated 96th overall, 83rd in fun, and 58th in innovation.