Brett Schiff

Software Developer

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Languages, Skills and Software:

Proficiency:

C++	GNU Compiler
C	SVN
Visual Studio	Doxygen
Git	Windows
GitHub	Lua

Familiarity:

C#	Unity
Java	Agile Development
JavaScript	Oracle VM VirtualBox
HTML	Linux
Clang	Bullet Physics Engine

Academic Projects:

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: Algorithm Analysis and Advanced C/C++ **September 2018 - Present**

I am currently a TA in two classes at DigiPen: CS330(*Algorithm Analysis*) and CS225(*Advanced C/C++*). The job entails 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

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:

- Backpropogation and Serialization
- Tests: averaging numbers and playing a simple ASCII game
- Mixing of different neural networks in addition to backpropogation for increased learning rates and simulation of "evolution" for self-training

Break the Board **August 2018**

A game created for Ludum Dare 42 with the theme *Running out of Space* 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.

Poco **July 2018 - Present**

A game created in Unity where the player moves using a polar coordinate system to dodge randomly spawning obstacles in an infinite 'runner.' It will be released on the Google Play Store.