**Colton Worrell**

**Generalist and Gameplay Programmer**

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**Skills**

* Strong programmer in C++, C, C#, Java, JavaScript, and familiar with Assembly
* Comfortable teaching and learning advanced subjects.
* Diligent work ethic, passionate about code, and innovative.
* Flexible: Inclusive on teamwork, confident on solo work. Happy to follow or to lead.
* Experience in Unity, Unreal, and custom engines, and conscious of their underlying implementations.

**Education**

**High School Student Pierce County Skills Center June 2017**

* Earned certification in Java
* Completed PC Networking and Hardware Repair course

**BSCS in RTIS DigiPen Institute of Technology Spring 2021**

* Graduated with a minor in mathematics
* Knowledgeable of best practices organizing code, hiding data, version control, etc.
* Enrolled in MSCS degree program; continuing education part-time.

**Academic Projects**

**Robotics Programmer Intro to Robotics 2016-2017**

* Created several VEX Robots that moved and traversed obstacles

**Physics Programmer GAM100 Sep. 2017 – Dec. 2017**

* Designed and Implemented Physics for a multiplayer game using vector arithmetic and ASCII art inspired by Atari Breakout

**AI Programmer GAM150 Jan. 2018 – Apr. 2018**

* Created pathfinding algorithm using recursive flood fill for a top down shooter.

**Core Engine Programmer GAM200/250 Sep. 2018 – Apr. 2019**

* Producer of dev team of 4 artists, 3 designers, 4 programmers, and sound designer
* Created a custom, component-based architecture 2D game engine (input, graphics, frame rate controller, etc.) in C++ using STL, GLFW, GLAD, OpenGL, and GLM
* Wrote an advanced messaging system from scratch with templated listener objects and buffered priority queue
* Created a custom editor for team to test and develop within the engine
* Met each milestone, review, and sprint on time, with a presentable, quality product

**Generalist Programmer GAM300/350/375 Sep. 2019 – Dec. 2020**

* Producer of dev team of 12 artists, 4 designers, 4 programmers, and sound designer
* Created a role-based asymmetrical blind-coop shooter/maintenance mech game
* implemented and maintained dual-monitor split-screen setup
* assisted in writing several minigames, such as a wire sorter and button masher
* generated many solutions requested by designers and artists

**Generalist Programmer GAM400 Sep. 2019 – Dec. 2020**

* Turn-based strategy WebGL game made with Unity as a solo project
* Created grid based A\* cooperative pathfinding system
* Allowed for dynamic adjustments of variables to preview AI movement destinations
* Programmed AI behavior to “retreat” to get health and ammo when in need.
* Created UI tooltip system.
* Allowed for variable resolutions by having UI dynamically adjusted.

**Work Experience**

**Java Programming Teacher ProjectFUN Summer 2018**

* Helped youth with problem solving skills on game projects in a custom engine
* Managed a classroom environment with over 20 students, and 3 teachers assistants
* Designed and improved curriculum to lead to better understanding of complex programming concepts

**Tutor DigiPen Summer 2019**

* Aided students in problem solving strategies
* Taught and reinforced various concepts in Computer Science, Math, and Physics
* Helped debug odd errors thrown by GCC, G++, and Visual Studio/CL

**IT Help Desk Worker DigiPen Summer 2019**

* Serviced software and hardware for many computers and printers for faculty and students throughout the campus.
* Worked with clients to diagnose and resolve issues.

**Teachers Assistant GAM150 DigiPen Spring 2020**

* Guided numerous project ideas into fruition
* Devised solutions for development teams who became stuck
* Aided professors and fellow assistants in coordinating class activities.

**Developer Resilience Current**

* Solo project working with Unity Mobile for Android on a platforming game
* Wrote a custom collision resolution function to allow restitution of over %100
* Randomly generate levels
* Player camera and gravity orientation rotates 360° to keep origin at bottom of display

**References**

Matthew Mead Computer Science Instructor [mmead@digipen.edu](mailto:mmead@digipen.edu)

Matthew Picioccio Game Instructor [matthew.picioccio@digipen.edu](mailto:matthew.picioccio@digipen.edu)

Justin Chambers Game Instructor [justin.chambers@digipen.edu](mailto:justin.chambers@digipen.edu)