Shareef Raheem

Software Developer (Tools and Graphics)

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TECHNICAL SKILLS

Programming Languages :

- Proficient in **C++(11/14/17), C, C#, GLSL,** and **JavaScript**.
- Familiar with **Java, PHP, SQL, ActionScript, Haxe,** and **Python**.

Development Tools and Frameworks:

- IDEs: **Visual Studio**, **VSCode**, **Qt Creator**, **Xcode**, **FlashDevelop**.
- Game Engines: **Unity** and **Custom C/++ experience**
- Libraries: **OpenFL**, **Dear ImGui, Qt, LLVM**
- Version Control: **GitHub**, **Perforce**, **SVN**
- Debugging: **RenderDoc, Dr. Memory,** and **Valgrind**
- Build Systems: **CMake, Make** and **Gradle**

WORK EXPERIENCE

Nintendo of America (NTD) — *Internship (Summer 2020)*

- Worked with the Nintendo Switch compiler team on the LLVM project.
- Improved build time of the llvm by 35% through investigating and testing out various build system optimizations.
- Wrote tools for visualizing where the compiler was taking time to build.

PROJECTS

Tech Director — Project: Gemini   *AUG2018 - JULY2019*

2D Two player, platformer student game made in a custom C++ game engine

- Developed an in-game **level editor** for the custom 2D game engine.
- Job system for easy **multithreading** of engine subsystems.
- Implemented a real-time instrumenting **profiler**.
- Presented the game at **PAX West 2019** for the DigiPen booth.
- https://store.steampowered.com/app/1149630/Project_Gemini/

Solo Project — Toy Game Engine   *MAY2019 - OCT2020*

https://github.com/BluFedora/BluFedoraEngine

- Developed a 3D renderer using the **Vulkan** graphics API that will automatically generate VkPipelines, VkFramebuffers, and VkRenderpasses based on the hashed state of the command list.
- Basic skinned mesh animation runtime.

Solo Project —Virtual Machine / Compiler   *MAY2019 - JUN2019*

- Designed a toy scripting language to learn basic **compiler design**.
- Implemented a mark-and-sweep **garbage collector**.
- Designed a compact bytecode format for the interpreter.

EDUCATION

Bachelor of Science in Computer Science
DigiPen Institute of Technology   **AUG2017 - MAY2021**

- Dean's List Honor Student (3.5 GPA).

AWARDS

DigiPen PAX 2019 Showcase for "Project: Gemini"

First Place in **Web Design for the FBLA 2016-2017** website design competition

CERTIFICATIONS

Web Authoring Using **Adobe Dreamweaver**

Graphic Design & Illustration Using **Adobe Illustrator**

PERSONAL INTERESTS

Making tools for people to make their lives more convenient is my passion, I have worked on custom level editors for various video-game projects.

I have lots of experience with OpenGL and a moderate understanding of Vulkan. I know the graphics pipeline along with the basics of GPU architecture.