

Justin Barber

Game Programmer and Technical Artist
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Objective

I'm a programmer with specializations in gameplay, shader, and network programming, and I would like to secure an internship or full-time position as a gameplay programmer in summer of 2019

Work Experience

Shader and Unity C# Programmer – Games for Entertainment and Learning Lab

Summer 2018 - Current

- Programmed the character controller and UI for a mobile endless runner game, *Monster Savings*, to educate teens on financial literacy for the Michigan State University Federal Credit Union
- Led development during rapid prototyping stages for multiple projects pitched to the client company
- Created HLSL shaders and particle systems including depth-based water effects and procedural sparks
- Implemented the game's animated HUD to be simple and sleek, improving user experience

React JS Software Developer Internship – Auto Owners Insurance

Summer 2018

- Developed an internal testing application in React JS to display and modify tables and sub-tables records
- Mapped multiple table fields and connected transaction tables together to display record history
- Implemented real-time search on fields or values with support for regular expressions and sub-tables
- Added SQL update statement generation to allow users to externally execute update statements

Education

Michigan State University, East Lansing MI

Anticipated Graduation May 2019

- B.S – Computer Science | Minor – Game Design & Development
- Coursework: Computer Vision, Web Application Architecture, Translation of Programming Languages, Game Design & Development I-II, Game Design Studio, Operating Systems, Software Design

Project Experience

Augmented Reality Mechanic Training – Collaborative Design Course

Fall 2018

- Developed effective AR applications with a team to train mechanics using a Microsoft HoloLens
- Performed real-time object recognition to efficiently track the process of assembling a model train
- Implemented network transfer of CAD diagrams and annotations from desktop app to HoloLens

Can a Robot Love – Game Design Studio Course

Fall 2018

- Worked with a team creating real time visual effects for gameplay features
- Created shaders with Shader Forge and effect event sequencing with C# scripts
- Game was invited to demo at GDC in the Intel sponsored student showcase

Image Line Detection – Introduction to Computer Vision Course

Spring 2018

- Developed program to identify line segments in images and display lines over the image
- Used Hough transform to extract and process features to locate lines

Python Compiler – Translation of Programming Languages Course

Fall 2017

- Created compiler which converts python into optimized assembly
- Implemented parser to read python code, convert it to an abstract syntax tree, translate it into an intermediate language, then finally output assembly
- Applied local, global, and inter-procedural optimizations to the intermediate code

Skills

- **Languages:** C# (4 yrs.), C++ (2 yrs.), HLSL (1 yr.), HTML/CSS (6 yrs.), JavaScript (5 yrs.), Java (2 yrs.), SQL (1 yr.), Python (1 yr.)
- **Tools:** Unity (HLSL, Shader Forge, Shader Graph, Visual Effect Graph), Adobe Suite (Photoshop, Illustrator, After Effects), Oracle Database 11g, MySQL, Blender

References

- Brian Winn, email: winnb@msu.edu, Manager of the Game for Entertainment and Learning Lab, was previously the Director Professor of the Game for Entertainment and Learning Lab
- William Jeffery, email: williamalanjeffery@gmail.com, Course Director at Full Sail University, the current Director and Manager of the Games for Entertainment Lab
- Jeremy Bond, email: gameprof@msu.edu, Professor of Game Development, Professor during Game Design Studio Course