Alex Guanjie Wang

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Skills

Languages: C, C++, Java, OpenGL/GLSL
Tools: Git, Subversion, Vim, Eclipse, XCode

Experience

3D Software Developer   *May — August 2017*
SideFX   Toronto, ON
- Developed a Motion Path Tool for Houdini 16.5 that allows animators to visualize and adjust the positions, timings, tangents, and keyframes of an animation directly within the viewport
- Created a new Pose State that merges the functionality of Object Move Tools with the Pose Tool to streamline the animation workflow within Houdini 16.5
- Modified and used GLSL shader files for the rendering of Viewport Handles within Houdini

Analyst, Advanced Data   *February — June 2015*
FinchWay Group   Toronto, ON
- Wrote and published 7 articles on findings from research done on advanced statistics within Major League Baseball (MLB)
- Queried baseball databases and performed statistical analysis to uncover undervalued assets within the MLB

Projects

Boulder Engine — *Java, GLSL*   *December 2016 — Present*
- Developed a game engine in Java capable of 3D model rendering, multi-texturing, and texture mapping
- Used matrix mappings for lighting calculations, collision detection, and 3D camera movement
- Wrote GLSL shader files for the GPU using the modern OpenGL programmable pipeline

Surviving SE — *C++, GLSL*   *September — December 2016*
- Created a 2D action-adventure RPG in C++ with procedurally generated maps and random enemy spawns
- Built 2D graphics engine using OpenGL to render texture files as sprites, walls, and menus
- Used Tiva-C board as external controller to send accelerometer/button data for game input

Education

University of Waterloo   *Expected December 2016 — 2021*
Candidate for Bachelor of Software Engineering   92% Average
Additional Courses
CS50x (Introduction to Computer Science by Harvard), CSMM.101x (Artificial Intelligence by Columbia), CSMM.102x (Machine Learning by Columbia) taken online through edx.org

Interests

Programming: Game design, 3D graphics, artificial intelligence, machine learning
Miscellaneous: sabermetrics (advanced baseball statistics), history, politics