Jon Baker

Graphics Programmer

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Objective

Looking to explore new challenges related to graphics programming, where I can apply my programming abilities and mathematical knowledge.

Education

Ohio University Class of 2020 (Graduated December 2019)
- BSEE in Computer Engineering – Major GPA: 3.112 (4.0 Scale)

Work Experience

Ohio University Stocker Center Computer Labs (Fall 2012-December 2019)
- Installing, Imaging and Maintaining of 100+ Computers with Software for Engineering Students
- First Line Technical Support for Engineering Computer Labs
- Worked 20-28 Hours while a Full Time Student

Selected Projects – See jbaker.graphics/writings for More Complete Listing, as well as Detailed Project Writeups.

- **Voraldo**: An Interactive Volume Editor
  - GUI Interaction to Set Geometry Parameters and Issue Draw Calls
  - Heavy Use of OpenGL Compute Shaders for Modeling, Volumetric Lighting and Other Operations
  - Per-Pixel Raycast Rendering of Voxels with Alpha Blending Written in GLSL

- **Physarum Polycephalum Simulation**:
  - Combination of Agent-Based and Continuum-Based Simulation to Model the Behavior of Physarum Polycephalum Slime Mold
  - All Computation Takes Place on the GPU Using GLSL

- **Markov Chains for Text Generation**
  - Done Using Only STL Containers

- **SoftBodies**: Realtime 3D Soft Body Physics
  - Multithreaded Simulation Update Using C++
  - GUI Set Up for Tuning Simulation Parameters

Programming Experience

- **Languages**: Primarily work in C++ (about 5 years experience), I have had exposure to C, GLSL, Python 3, HTML5, Javascript, Processing, Shadertoy, MATLAB, VHDL, Verilog and assembly (MIPS, PIC)

- **Tools**: Experience with OpenGL 4+, Including Image Load/Store, Compute Shaders, SSBOs and GLSL Atomic Operations, C++ Bindings for SDL2, 8+ Years Using Linux, About 1 Year Using Vim, Experience with Word Processing, Spreadsheet and Presentation Software

- **Math**: Calculus, Probability & Statistics, Linear Signals and Systems, Diff Eq, Strong Intuition for 3D Vector Math

Awards and Activites

- Eagle Scout Rank (BSA Troop 71, September 22, 2011) and Current NESA Member
- Maintain a Personal Website using HTML5, CSS and Javascript

References available upon request.