RUSHIL KEKRE

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EDUCATION

MS – Visualization *December 2017 (expected)*
Texas A&M University College Station, TX

BE – Computer Science *2009 – 2013*
PES Institute of Technology Bangalore South, India

SKILLS

Languages/API: C++, OpenGL, GLSL, VEX, Python, HTML, CSS, JavaScript, Bootstrap
Software: Houdini, Visual Studio, Maya, Photoshop, Unreal Engine, Mari
OS: Windows, Linux, Mac

EXPERIENCE

FX Intern *January 2017 – May 2017*
SideFX Software Santa Monica, CA
- Assisted senior production specialists with Houdini 16 workflows
- Testing new Houdini 16 toolsets

FX Intern *June 2016 – August 2016*
Framestore New York City, NY
- Created FX elements using Houdini for a commercial as well as an in-house animated short
- Built a procedural modeling tool to generate static snow and icicles on props
- Added functionality to existing HDAs using VEX

Graphics Programming Intern *February 2013 – April 2013*
Virtual Logic Systems Bangalore, India
- Developed a spark generation tool in C# for a welding simulator running on Unity game engine

SELECT PROJECTS

OpenGL Render Engine – A real time rendering engine using C++, OpenGL, GLSL and ImGUI.
- Features include PBR texturing using albedo, normal, roughness, metallic and AO maps
- Image based lighting using HDR maps
- Deferred rendering using G-Buffer, SSAO
- Model loading, model transformation, point and directional lighting, skybox integration

Monte Carlo Path Tracer – Developed using C++
- Includes glossy reflections, refractions, materials
- Light sources, soft shadows, etc.

Flocking Simulation – Developed using Processing
- Based on Craig Reynold's '87 SIGGRAPH paper: Flocks, Herds, and Schools: A Distributed Behavioral Model
- Includes collision detection, flock centering, velocity matching, multiple independent flocks

Digital Image Processing – Developed using C++
- Implemented smart blur, dilation, erosion, emboss filters
- Translation, rotation, scaling, shear, perspective and mirror features

Battleships – A 2D game developed using C++ and OpenGL (Team project: 2 members)
- Created 2D animation for cut scenes
- Developed hit recording and score keeping algorithm

ADDITIONAL EXPERIENCE

- Taught C++ and OpenGL as a **Graduate Teaching Assistant** for VIST 270 - Computing for Visualization 1
- Wrote scripts in Matlab as a **Graduate Research Assistant** from Jan '16 to May '16 on a NSF funded Augmented Reality project based on eye tracking
- **FX Technical Director** on "The Novice" – Developed Pyro effects and character glow effects
- **FX Technical Director** on "Knot Today" – Developed Pyro effects