Nick Shelton

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Education

University of Texas at Austin — Austin TX **B.S. Computer Sciences 2013** **GPA 3.4 Overall / 3.8 CS**

Number Theory — Computer Graphics — Linear Algebra — Applied Linear Algebra — Statistics — Computational Brain
Digital Arts and Media — Topology — Real Analysis — Japanese Association — Inline Hockey — One Semester Startup

Skills

Unity ○ C# ○ GLSL / HLSL ○ Python ○ Linux ○ Blender ○ Linear Algebra ○ CUDA ○ Geometric Computer Vision
C ++ ○ C ○ Image Processing ○ DSP ○ Realtime Graphics ○ Shaders ○ Data Visualization ○ 3D UI
Mixed Reality ○ Virtual Reality ○ 3D Reconstruction ○ Mesh Processing ○ 3D Sensing ○ 3D Math

Experience

Graphics Developer **TheWaveVR, Inc.** *Austin / Los Angeles — 2017 -*

- Optimize Unity assets, materials and shaders for 90hz VR rendering, using C#, HLSL, Shaderlab
- Develop Networked Visual controllers and Visual effects for user generated content pipeline
- Work closely with artists and developers to identify workflow

Lead Graphics Engineer **Occipital, Inc.** *San Francisco, CA — 2016 to 2017*

- Designed, developed and optimized custom mixed reality rendering pipeline for iOS with GLES, GLSL, and SceneKit
- 60 Hz VR rendering on iOS, custom shadow rendering for augmented reality, low-latency tracking and rendering
- Created and documented advanced rendering demos for Structure SDK users

Graphics Engineer (Contract) **Intel Corporation** *Austin, TX – Aug to Dec 2015*

- Developed and tested Intel's open-source Mesa3D OpenGL driver, optimized for Intel multicore HPC environments

Founder **Sheltron Visuals** *Mar 2015 to Present*

- Develop and perform real-time audio-reactive projection-mapped installations with custom software
- Consult on GPU video-processing and computer vision projects for San Francisco and Austin startups
- Create interactive data visualizations and installations using WebGL, D3, THREE.js

R&D Scientist **Lynx Laboratories, Inc.** *Austin, TX – Jan 2013 to Mar 2015*

- Planned, conducted and documented original research under NSF SBIR Phase 1 & 2 research grants
  - Implemented automatic HD texture mapping for photographs onto 3D scans using C++ and OpenCV
  - Reduced depth sensor error by 10x using custom stereo vision pipeline, in CUDA, C++ and ARM NEON
- Developed GPU machine-learning techniques for realtime 3D mapping using CUDA, C++ and Kinect
- Successfully funded Kickstarter for a realtime 3D scanner; 40 products sent to 12 countries

Software Engineer Intern **Facebook, Inc.** *Menlo Park, CA – Summer. '11 & '12*

- Developed search engine and graph-based visualization of server traffic in Javascript, Python
- Built UI for mobile iOS app working alongside designers and backend engineers

Research Assistant **UT AI & Robotics Lab / Perception Lab** *Austin, TX – 2010 to 2013*

- Designed and implemented realtime vision algorithms for autonomous vehicles in C++ using OpenCV and ROS
- Implemented realtime depth integration for 3D reconstruction using 3D sensors, CUDA and C++

Awards and Activities

Panel - Fractals - Technology & Art	Virtual Reality LA	Los Angeles CA	Spring 2018
Poster - VR Distance Field Rendering	Nvidia GPU Technology Conference	San Jose CA	Spring 2018
Artist in Residence - Tilt Brush	Google	San Francisco CA	Fall 2016
Co-Presenter - GPU Machine Perception	Nvidia GPU Technology Conference	San Jose CA	Spring 2012
First Place - Lynx Laboratories	Idea to Product Global	Stockholm, SE	Fall 2012
Demonstrator	SBIR National Innovation Summit	Washington DC	Spring 2013
Grant Recipient - WebGL Mesh Editor	Mozilla Ignite Challenge	Kansas City, MO	Spring 2013
First Place - Kinect GPU Audio Visualiser	HackTX	Austin, TX	Fall 2011