

BRAD GRANTHAM

[linkedin.com/in/bradgrantham/](https://www.linkedin.com/in/bradgrantham/)
plunk.org/~grantham

650-224-5545
grantham@plunk.org

SUMMARY

I'm an experienced GPU software engineer who can drive a project, sit on a standards body, interface with HW and SW partners, and write C++, Python, OpenGL, and shaders.

PROFESSIONAL EXPERIENCE HIGHLIGHTS

Senior Software Engineer, LunarG, Inc, May 2019 – Present

- OpenXR representative, refined XR_EXTX_overlay extension
- OpenXR API Layer implementing XR_EXTX_overlay using RPC over shm, D3D11
- VR/AR client relationship, project research, project planning, task assignment

Staff Software Engineer, Google LLC, August 2018 – March 2019

- Stadia (was Project Stream) Vulkan Driver Stack TL – planning, GPU partner relationship

Principal Graphics Architect, ARM Inc., November 2016 – April 2018

- ARM representative to Khronos OpenXR open VR/AR API working group
- GL shaders for temporal reprojection AA sample, convolutional neural network investigation
- OpenGL tests/benchmarks, patent applications for proposed GPU hardware features

Principal Software Engineer, ARM Inc., Ecosystem, December 2013 – October 2016

- Debugging of Mali 400 integration issue with partner – OpenGL ES 2 app characterization, onsite partner collaboration, coordinated Shanghai and Cambridge groups
- Managed port and bringup of Unreal Engine on 64-bit Android with Mali GPU – ISV relationship and directed two additional engineers. “MoonTemple” demo at GDC 2015 with Epic Games

Staff Engineer, ARM Inc., Direct3D, April 2010 – December 2013

- Command transport layer, register tracing, test frameworks for Direct3D 11 driver for mobile GPU
- Investigated traces of hardware commands, filed bugs, worked with hardware team
- Drafted, directed bring-up procedure for tests on new GPU architecture

Senior Software Engineer, AMD, January 2008 – April 2010

- Worked on-site with ISVs and partners; wrote tests, samples, and benchmarks for OpenGL

Senior Software Engineer, Applications Engineering, Silicon Graphics, January 2002 – September 2005

- Wrote IRIX, Linux, Windows OpenGL samples, benchmarks, tests; whitepapers, presentations
- US Patent 7460126 for multithreaded 4K video player using 4 OpenML video devices and RAID

Member of Technical Staff, Silicon Graphics, June 1995 - April 1999

- Design & implementation for Fahrenheit Scene Graph, OpenGL Optimizer, Cosmo 3D
- US Patent 6933941 describing an object-oriented 3D scene representation (Cosmo 3D)

OTHER EXPERIENCE

SPIR-V shader core using RISC-V RV32IF; wrote Verilog and C++ emulator,

<https://github.com/bradgrantham/alice5>

Transform/lighting/clipping library, reference rasterizer, I2C, schematic capture, PCB routing for handheld graphics demos computer - <http://kesteloot.github.io/alice/alice4/>

Apple][, Colecovision emulators especially GLSL shaders for framebuffer output

Firmware for STM32F4, schematic and routing for Z80+CortexM4 SBC - <http://plunk.org/alice3/>

Designed, implemented GLSL ray-tracer using fragment programs including PBR, linear BVH

Presented portion of SIGGRAPH 2002-2004 *Performance OpenGL* course

SAMPLING OF SKILLS

Windows, Linux, MacOS, C, C++17, Python, Git, Gerrit, Gitlab, OpenGL, GLSL, WebGL, Vulkan, KiCAD, STM32, ARM Cortex M, Embedded Systems, Javascript, Verilog, Flask, SQLite

EDUCATION

Graduated 1992 from Virginia Tech with B.S. in Computer Science.