Brad Blanchard

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Real-time graphics programmer with a passion for developing new real-time experiences via games, VR and mobile. Expert in real-time graphics, game engine development, CPU/GPU programming and optimization. Up to date and excited about the future of 3D graphics and rendering.

Core Abilities

- Low level, real-time systems programmer
- Strong knowledge of Direct3D and OpenGL
- Excellent time management skills
- Passion for real-time graphics
- Meticulous, quality oriented
- Motivated, self driven
- Focus on productivity and efficiency

- GPU/compute programmer
- Multi-core, SIMD programmer
- Quick learner, excellent problem solving skills
- Optimization and debugging skills
- Simple, clear, maintainable code
- Strong desire to learn and improve craft
- 3d art skills

Experience

Google Inc - Mountain View, CA   2014 - 2015
Graphics Programmer, Google ATAP

Keywords: Google ATAP, Spotlight Stories, Duet, HELP, 360 Video, Android, Rendering, Optimization

- Member of Spotlight Stories team in Google's Advanced Technology and Projects Group (ATAP).
- Shipped Spotlight Stories: Duet and HELP.
- Implemented 360 video player (multi-resolution virtual video cubemap textures) runtime for HELP.
- Implemented asset pipeline for 360 video player for HELP.
- Worked closely with HELP production team to spec 360 camera rig and design production techniques.
- Created tools to allow HELP director to direct from android device in real-time while filming.
- Implemented OpenGL ES3 render backend and shader pipeline.
- Implemented asset streaming over internet.
- Optimized Duet animation compression, runtime and asset pipeline.
- Worked with other engineers to design and improve engine systems.
- Worked closely with and supported content teams.

Motorola Mobility - Mountain View, CA   2013 - 2014
Graphics Programmer, Motorola ATAP

Keywords: Motorola ATAP, Spotlight Stories, Windy Day, Buggy Night, Android, Rendering, Optimization

- Member of Spotlight Stories team in Motorola's Advanced Technology and Projects Group (ATAP).
- Shipped Spotlight Stories: Windy Day and Buggy Night.
- Implemented OpenGL 4.0/ES2 render backends, material system, lighting engine and shader pipelines.
- Implemented post-processing framework, wrote optimized shaders for common operations.
- Implemented and optimized CPU particle system.
- Implemented asset streaming from disk, hot-loading, async resource upload to GPU.
- Implemented audio backend with 3d positional audio.
- Created tools for content production.
- Optimized engine for ARM CPUs and rendering for adreno hardware.
- Worked with GPU manufacturer to identify and diagnose OpenGL/OpenCL implementation bugs.
- Worked with Project Tango team to implement sensor fusion algorithms for camera controller.
- Improved build system and asset toolchain to optimize build time and productivity.
- Helped integrate and optimize OpenSubDiv project.
- Content creator for Windy Day and Buggy Night.

OnLive Inc - Palo Alto, CA
2010 - 2012

Software Engineer, Game Services

Keywords: Developer Relations, Game Porting, World Travel, SDK Integration, Networking, Optimization
- Provided engineering and art skills to port PC and console games to the OnLive game service.
- Integrated or replaced game features such as multiplayer matchmaking, networking transport, voice chat, achievements, filesystem.
- Traveled worldwide to provide software engineering resources for game developers.
- Optimization for limited resources: memory usage & fragmentation, latency reduction, CPU/GPU optimization, thread tuning, etc.
- Troubleshooted and debugged unique game and cloud service bugs.
- Provided developer support to external game developers.
- Worked closely with OnLive SDK team to optimize developer porting workflow.
- Games include: Borderlands 2, Assassin's Creed Revelations, Homefront, LA Noire, Driver: San Francisco, Duke Nukem Forever, Tom Clancy's H.A.W.X. 2, Mafia II, Unreal Tournament III, Super Street Fighter IV Arcade Edition, Call of Juarez: The Cartel, Warhammer 40k: Space Marine, Warhammer 40k: Dawn of War II - Retribution, Warhammer 40k: Dawn of War II - Chaos Rising, NBA 2K11, NBA 2K10, MLB 2K11, MLB 2K10.

Intel Corporation - Santa Clara, CA
2010

Graphics Programmer, Project Offset

Keywords: Project Offset, D3D10, SSAO, HDR, Post processing, Anti-aliasing, Refraction, Optimization
- Graphics programmer on [Project Offset](#) team.
- Used graphics and rendering knowledge and experience to help team optimize engine.
- Implemented a high performance screen-space ambient occlusion shader.
- Implemented high dynamic range rendering with automatic exposure control.
- Added mixed-resolution rendering pipeline for improved performance.
- Implemented anti-aliasing as a post-process.
- Worked with engineers to develop post-process refraction technique.
- Refactored code to improve performance, efficiency and readability.
- Worked with artists to add features per request.

[Maraizon International](#) - Sebastopol, CA
2002 - 2009

Senior Programmer, 3d Artist

Keywords: Real-time Architectural Visualization, idTech3, OpenGL, 3D Modeling and Animation
- Developed high performance game engine and tools for architectural and product visualization.
- Features include: terrain & vegetation rendering, robust lighting/shadowing, pedestrian and vehicle AI system, animation system.
- Developed custom asset pipeline for export, optimization and conversion from 3dsmax.
- Created interactive model of downtown Santa Rosa, CA for development visualization and city approval.
- Created assets for all aspects of projects including: buildings, characters, vehicles, props, vegetation, effects, animations.
- Developed educational game demo that was featured at E3 2005.
- Adapted idTech3 engine and tools for real-time architectural visualizations.
- Created other art assets including: GUIs, website graphics, help files and marketing graphics.
- Developed new techniques for 3d asset production.
- Developed standards, guidelines and implemented an efficient workflow for artists.

Projects

[Virtual Texture Demo](#)
2009

- Implemented virtual texturing rendering technique similar to MegaTexture in idTech5.
- C# implementation using D3D10.
- Open Source, MIT license.

Education

Sonoma State University - Rohnert Park, CA
2003 - 2005

Computer Science/Mathematics

Santa Rosa Junior College - Santa Rosa, CA
2000 - 2002

General/3d Artist
- Dean's Honors for 3D animation