

Nathan R. Reed

10820 113th Ct NE Apt H204 • Kirkland, WA 98033
nathaniel.reed@gmail.com • (425) 890-2532 • <http://www.reedbeta.com>

Skills

3D computer graphics

- Expert on interactive graphics: D3D10–11, OpenGL, shaders (Cg/HLSL), physically-based rendering, HDR lighting, postprocessing, VFX/particles
- Familiar with offline graphics: ray tracing, path tracing, photon mapping
- Strong mathematics background: 3D math, calculus, linear algebra, etc.
- Working knowledge of Maya; some experience building Maya tools and plugins

General software development

- High proficiency in C/C++, Python
- Familiar with object-oriented design, design patterns, threading/concurrency
- Experienced with Visual Studio, `make/gcc`, version control & bug tracking software
- Familiar with profiling, optimization, performance tuning

Communication/collaboration

- Communicating with artists and designers, incorporating feedback and iterating on features, closing the loop with users after each iteration
- Planning and executing effectively on vague, underspecified, or open-ended tasks
- Translating abstract descriptions from papers, articles etc. into working code
- Working with loose supervision, setting my own goals and executing on a day-to-day basis, sticking to a schedule
- Getting up to speed quickly in an unfamiliar domain/codebase
- Writing technical documentation; experienced with \LaTeX

Experience

Sucker Punch Productions, Bellevue WA (Jun '08 – present)

- Shipped AAA PS3 games *Infamous*, *Infamous 2*, *Infamous: Festival of Blood*
- Major contributions to: fog, volumetric light, water, VFX/particles, skin and hair materials, specular model, postprocessing
- Worked side-by-side with artists and designers to define, implement and refine new shaders and rendering features
- Developed reports & tools to enable art team to understand and optimize performance of art assets
- Implemented linear-space (gamma-correct) rendering throughout engine and tools
- Kept to the schedule, limiting scope of planned features where necessary to do so
- Received excellent performance reviews from managers

Game Developers Conference 2012, San Francisco CA (March '12)

- Gave talk: *Ambient Occlusion Fields and Decals in Infamous 2*

Pomona College IT Student Services, Claremont CA (Sept '04 – May '08)

- Lead developer of in-house web application for schedule management
- Worked at college tech support desk, assisting students in installing software, using applications, computer maintenance, data recovery, other services

Associated Students of Pomona College, Claremont CA (Aug '06 – Mar '08)

- Webmaster, sysadmin, and lead developer for Pomona's student government body
- Designed and built several web applications providing services to Pomona students, using PHP, MySQL, and Javascript
- Administrated Linux/Apache server hosting student club websites

Education

Pomona College, Claremont CA (Sept '04 – May '08)

- Bachelor of Arts in Computer Science
- GPA 3.92; elected to Phi Beta Kappa; minor in mathematics
- CS electives: graphics, computer architecture, compiler design, AI, large-scale software development
- Graphics-related school projects shown at <http://www.reedbeta.com>
- Senior thesis on programming language design, with Prof. Kim Bruce:
An expressive, type-safe module system for object-oriented languages

Self-education in interactive and offline computer graphics (since 2002)

- Developed hobby OpenGL lighting and shading demos: <http://www.reedbeta.com>
- High school senior project in interactive graphics:
Frustum and occlusion culling in a quadtree-based terrain renderer