

OBJECTIVE	Full-time employment as a software engineer or technical artist. Particular interests include graphics, rendering, VR/AR, GPU programming, physical simulation, video games, shader development, UI development, and artist pipeline and tool design.
WORK EXPERIENCE	<p>Industrial Light and Magic 2011–Present <i>Effects Technical Director</i> Created visual effects and software for multiple feature films including <i>Black Panther</i>, <i>Deepwater Horizon</i>, <i>Ant-Man</i>, <i>Pacific Rim</i>, and <i>The Avengers</i>. Typical shot work involved physical simulation, shader development, and rendering. Designed and implemented ILM's Houdini asset pipeline, allowing artists to import production assets into Houdini as well as share assets between shots in a consistent way. Extensive use of python, C++, and the Houdini API.</p> <p>Blue Sky Studios 2008–2011 <i>Effects Technical Director, Sequence Lead</i> Created visual effects and software for the animated feature films <i>Ice Age 4</i>, <i>Rio</i>, <i>Ice Age 3</i>, and related marketing. Typical work included particle, fluid and rigid body simulation, shader development, pipeline development, and design and implementation of artist interfaces in Python and C++. Lead responsibilities included interacting with other departments as effects representative, overseeing artist work, and development of robust and reusable effects systems.</p> <p>PDI/Dreamworks 2002–2007 <i>Visual Effects Animator (after 2004)</i> <i>Technical Director—Lighting and Effects (until 2004)</i> Created animation and software for the animated feature films <i>Madagascar 2</i>, <i>Shrek the Third</i>, <i>Over The Hedge</i>, <i>Madagascar</i>, <i>Shrek 2</i>, and related marketing. Typical work included shader development, particle and fluid simulation, crowd simulation, rendering, compositing, render optimization, resource management, and development of reusable effects systems and artist tools. Larger projects included design of shader networks for crowd surfacing, and implementation of pipelines for PDI's global illumination and volume shadowing systems.</p> <p>Industrial Light and Magic Summer 2000 <i>Research and Development Technical Director (Intern)</i> Designed and implemented Maya plugins using the Maya API and OpenGL.</p>
TECHNICAL SKILLS	Programming experience in C, C++, Python, Perl, Ruby, OpenGL, GLSL, tcsh. Strong knowledge of computer graphics rendering theory, techniques and programming with particular emphasis on film and video games. Experience with graphics hardware and programmable shading. Experience with rendering, global illumination, shader writing, physical simulation.
EDUCATION	<p>Brown University, Providence RI B.A. with Honors in Computer Science Graduated May 2002 Honors Thesis—studying and implementing physically-correct Monte Carlo rendering architectures, including the Metropolis Light Transport algorithm. UTRA Fellowship—studying numerical optimization and mathematical programming for spacetime constraint animation.</p>