

# Ray Haleblian

[Computer Graphics Technical Direction, Lighting and Software Development]  
ray@haleblian.com

## Experience

Technical Director / Associate Technical Supervisor, Disney Animation (2012-present)

Production and rendering pipeline tools, design and development. Construction of web application for distributed for monitoring and control of distributed rendering. Integration and improvement of tools for large format rendering. Integration of, and transition to, in-house raytracer. Stereoscopic rendering optimization. Technical direction for *Wreck-it-Ralph*, *Moana*, and *Wreck-it-Ralph 2*, technical supervision for *Big Hero Six*. Tools: Python, C++, Django.

Senior Artist, Digital Domain Inc July (2010-2012)

Technical direction, simulation and lighting for *Real Steel*. Implemented fur shading solution, via integration of Shave and a Haircut into the facility pipeline, and into V-Ray as a target renderer. Look development for mechanical and organic characters. Rendering performance reports and visualization tools. Shot lighting for various sequences. Migrated aforementioned tools and technique to future projects.

Senior Artist / Technical Director, Animal Logic Pty Ltd (2008-2010)

*Legend of the Guardians* - developed and maintained tools for shadow map cheating, area lighting, render pass management, AOV management, in the context of AL's MayaMan RIB translator. Wrote shaders for subsurface scattering effects for the in-house Impasto PRMan shading framework. Python and RSL implementations. In early 2010, served as lighting team lead for numerous sequences, managing technical requirements, guiding and reviewing lighting for visual target and sequence continuity.

Computer Graphics Supervisor, Electronic Arts Canada (2005-2008)

Supervised environment art assets for *FIFA 2007 - Road To World Cup* on the Xbox 360 platform. Product manager for internal lighting tools. Focus on lighting and shading for realtime applications; designed improvements to lightmapping pipeline and introduced compositing to workflow. Subsequently, CG Supervisor on the game team for FaceBreaker, on Xbox 360 and PS3. Tools: Maya, mental ray, HLSL programmable shading, numerous EA proprietary tools.

Senior Lighting Technical Director, Sony Pictures Imageworks (2004-2005)

Served as lighter for train fight sequence in *Spiderman 2*. Subsequently acted as TD for shot previsualization on *The Aviator* and as TD for the stereoscopic release of *Polar Express IMAX*. For *Open Season*, was look developer in charge of software development and production support of in-house tool for the construction of Renderman shaders in Maya. Implemented shaders for *Open Season* with said tool. Tools: Maya, MEL, Imageworks proprietary lighting, compositing and production tools.

#### Senior Technical Director / Pipeline Supervisor, ESC Entertainment (2001-2003)

Led technical direction and lighting for *Matrix: Reloaded* and *Matrix: Revolutions*. Oversaw TD teams lighting and rendering shots. To this end, designed and implemented a pipeline for lighting and rendering virtual humans in mental ray, integrating image-based lighting, custom shading, samples-pass rendering among other techniques. Wrote displacement shaders for pose-based cloth wrinkling. Compositor on *Revolutions*. Provided preliminary lighting and rendering tests for *Constantine*. Throughout this period, built and specified tools for making mental ray a viable rendering platform in the large, which included extensions and convenience tools in Maya and free-standing and scene description assembly and manipulation tools. Portions of the virtual-human pipeline framework were subsequently generalized for studio-wide use.

Tools: Maya, MEL, Shake, mental ray, C, Maya plugin API, Perl, proprietary tools.

#### Lighting Technical Director, Manex Visual Effects (2000)

Led development of pipeline tools for rendering test shots for *Matrix Reloaded*. Built rendering workflow with software in beta on short schedule. Co-developed technique for applying local reference based temporal deformations to fix cloth interpenetration problems. Technical direction.

Tools: Maya, Shake, MEL, C, Perl, mental ray, proprietary tools.

#### Technical Supervisor, XAOS (1999-2000)

Supervised commercial, broadcast and large-format, and IMAX/OMNIMAX film projects, including a ride film for Volkswagen. Responsible for project pre-planning and pre-visualization. Involved in estimation and bidding processes for new work, and to intranet and infrastructure. Handled film color-correction and quality assurance. Improved performance and quality of digital compositing for large format film. Organized development of image processing techniques for projecting CG onto OMNIMAX domes and oversaw rendering. Performed compositing and motion stabilization in large-format. Participated in lighting and rendering shots. Tools: 3D Studio MAX, Shake, Commotion.

#### Internet Engineer, Gotham Broadband (1999)

Built web site and content prototype for feedroom.com, a newly launching news portal. Researched methodologies for handling flow of multiple news feeds which led to a system for producing and maintaining site content. Tools: DHTML, Apache web services, Perl CGI, Real video streaming.

#### Technical Supervisor, Kleiser-Walczak Construction Company (1998-1999)

Effects animation, character rigging and software tool development for *The Amazing Adventures of Spiderman*, a next-generation theme-park ride at Universal Studios Florida. Supervised shots and stereoscopic cinematography and shaded, lit and rendered shots for *Monsters of Grace*, a Philip Glass and Robert Wilson performance film. Worked on effects, lighting and compositing on commercial spots for NTT, Stardox, Dodge and Universal. Developed in-house software. Tools: Maya, Dynamation, MEL, Perl, Photoshop, C.

#### Animator / Technical Director, OVEN Digital (1996-1998)

Fulfilled programming and engineering needs for this web site design company, including server-side page generation and workgroup computing support. Developed two online games and other Shockwave elements for the Web. Also worked with animation group on broadcast advertisement.

Tools: C/C++, 3D Studio MAX, HTML, Javascript, Photoshop, CGI/Perl, DeBabelizer, QTVR, Macromedia Director/Shockwave.

#### Software Engineer, Boing! (1996)

Wrote digital media and language interpreter components for Encyclopedia Britannica educational CDROMs. Helped rapid-prototype and develop BOINGL, a lightweight, fast, small-footprint authoring language and runtime for Windows. Developed 3D animation technique for simulating the folding of paper airplanes. Tools: Borland C/OWL, 3D Studio, Visual Basic.

#### Software Engineer, Thirteen/WNET New Media (1995-1996)

Built prototype application, devised technical plan for software and media asset production, and assisted with 3D character modeling and animation for the adventure game *The Day The World Broke*. Tools: Macromedia Director, C++ with Broderbund proprietary class libraries, 3D Studio R3.

#### Research Engineer, Interactive Media Technology Center (1992-1995)

Animation and graphics programming for multi-display and realtime rendering, interactive installations, architectural visualization, surgical simulation and topographic scanning. Modeled undersea craft for WTBS' *Jason Project*. Provided animation for Atlanta 1996 Olympic bid. Tools: C, C++, SGI GL, Advanced Visualizer, TDI Explore, Visual Basic, Macromedia Director.

## Education

#### MS Computer Science, Georgia Institute of Technology

Graduate researcher at Graphics, Visualization and Usability Center (GVU). Investigated state-based methods for computer-aided dynamic simulation of human gait. Acted as chief scientist for software engineering laboratory group. Implemented classic FFD algorithms as a standalone interactive modeling program.

#### Studio Courses, Art Institute of Atlanta

Studied fundamentals of visual communication, graphic design, and illustration.

#### BS Mechanical Engineering, Georgia Institute of Technology

Awarded additional Certificate in Bioengineering. National Merit Scholarship recipient.

#### Publications and Presentations

SIGGRAPH 1993 Art & Design Show - Contributor, Olympic Bid 1996 interactive installation *Vision of the Village*.

SIGGRAPH 1994 VROOM - Contributor, stereoscopic installation *Jason Interactive Mapper*.

*Computer-Simulated Eye Surgery: A Novel Teaching Method for Residents and Practitioners*. M. Sinclair, J. Peifer, R. Haleblan, M. Luxemberg, K. Green, D. Hull, OPHTHALMOLOGY, Vol 102 No 3 March 1995.

## References

Craig Welsh, Animal Logic Pty Ltd  
Steve Agland, Animal Logic Pty Ltd  
Greg Juby, Electronic Arts Canada  
Mark Johnson, Electronic Arts Canada  
JD Cowles, Sony Pictures Imageworks

Reel:

<http://ray.haleblian.com/cv/reel.mov>

Reel Breakdown:

<http://ray.haleblian.com/cv/breakdown.pdf>

This CV available at

<http://ray.haleblian.com/cv/cv.pdf>