

/CREATIVE.  
/3D.  
/TECHNOLOGIST.

# George Borshukov

M: 415.602.6068 E: george.borshukov@beyondview.com W: georgeborshukov.com

## Summary

Pioneer and innovator in computer graphics and computer vision with focus on highly photorealistic image generation and rendering. Creative Technologist. 3D Imaging and Visualization Solutions Architect. Proven driver of innovation and R & D. Conceives, coordinates, and manages all technical design, execution, testing, and validation aspects of innovative groundbreaking solutions in the space of computer graphics visualization. Extensive experience across multiple industries (film, video games, apparel e-commerce, real estate visualization).

## Experience

CTO, BeyondView

Sep 2017 - Present

Leading product and technology transition from volumetric capture for VR/AR entertainment to spatial collaboration and data overlay platform targeting real estate business verticals.

Founder & CEO, Intervisual Corp.

May 2015 – Jul 2018

Spun out patents and created company based on providing virtual fit solutions for apparel. Product used patented 3D garment visualization on consumer body matched avatars. Intervisual was a designated Intel Capital pipeline company - part of Intel's Immersive Shopping Initiative. Technology tested and piloted by top global apparel brands.

CTO, Embodee Corp.

Feb 2009 – Apr 2015

Co-created and patented processes designed to address scalable garment and shoe digitization. Creator of realistic real-time rendering of branded apparel products. Completed highly successful Virtual Try-on initiative with Hurley jeans 2010/11. Embodee pivoted to focus on mass customization of shoes/apparel in 2011 focusing on visual configurators for team sports uniforms and shoes.

Director of Creative R&D, Electronic Arts

Jun 2004 – Feb 2009

Focused on setting a new standard for facial capture, animation and rendering in video games and interactive entertainment. Conceived the "Fight Night Round 3" and Tiger Woods tech demos showcased at Sony's E3 2005 and 2006 press events. Led the development of the Playable Universal Capture technology and its integration in the "Tiger Woods PGA Tour 07" and "NFS: Carbon" video game titles. Explored new interactivity concepts including 3d camera devices. The team's gestural interface interactive kiosk projects were exhibited at Wired NextFest 2008 and were part of Gillette's Champions of Gaming campaign.

VFX Technology Supervisor / CG Supervisor, The Matrix 2 & 3, Catwoman

Jan 2000 – Jun 2004

Led the development of digital doubles showcased in the Burly Brawl and Superpunch sequences in "The Matrix Reloaded" and "The Matrix Revolutions". At SIGGRAPH 2003 presented sketches in The Matrix Revealed Session on topics such as Universal Capture – image-based facial animation, measured BRDF in film production, and realistic human face rendering introducing the texture space diffusion (TSD) method for simulating subsurface scattering in skin.

Bullet Time Technical Designer / R&D, The Matrix, Mission: Impossible 2

Jan 1998 – Jan 2000

Developed Academy Award winning image-based virtual background system applied to key shots in "The Matrix", "Deep Blue Sea", "Mission: Impossible 2", the IMAX film "Michael Jordan to the MAX", and "The Matrix" sequels. Co-invented the UV Pelting approach for parameterization and seamless texturing of polygonal or subdivision surfaces (SIGGRAPH 2000), now a standard for UV mapping in many popular 3D packages.

R&D, What Dreams May Come

Sep 1997 – Jan 1998

Optical flow application for tracking of CG elements for Oscar winning painted world sequences.

## Education

M.S. Computer Science (Graphics/Vision), University of California at Berkeley

1995 - 1997

Co-creator of the seminal photogrammetry and image-based rendering short The Campanile Movie featured at SIGGRAPH 1997 Electronic Theater

B.S. Electrical Engineering (Video/Image Processing), University of Rochester

1992 - 1995

Electrical Engineering Faculty Prize for research achievements in video image processing and optical flow algorithm investigation

## Awards

Sci-Tech Academy Awards, Academy of Motion Picture Arts & Sciences

2014 - 2015

Technical Achievement Award for pioneering work in the development of Universal Capture at ESC Entertainment. The Universal Capture system broke new ground in the creation of realistic human facial animation. This technology produced an animated, high-resolution, textured mesh driven by an actor's performance.

2<sup>nd</sup> Annual VES Awards, Visual Effects Society

2003 - 2004

Outstanding Visual Effects Photography in a Motion Picture for Universal Capture facial photography in The Matrix sequels.

Sci-Tech Academy Awards, Academy of Motion Picture Arts & Sciences

2000 - 2001

Technical Achievement Award for the development of a system for image-based rendering allowing choreographed camera movements through computer graphic reconstructed sets. This component of the Manex Visual Effects Virtual Cinematography System provides theatrical-quality virtual settings.

Academy Awards, Academy of Motion Picture Arts & Sciences

2000

On Oscar winning team – Best Visual Effects for The Matrix

Academy Awards, Academy of Motion Picture Arts & Sciences

1999

On Oscar winning team – Best Visual Effects for What Dreams May Come

## Patents

Footwear digitization system and method

2017

Garment fit portrayal system and method

2014

Garment digitization system and method

2013

Method for digitally rendering an object using measured BRDF data

2004

Method for digitally rendering skin or like materials

2004

## Skills

3D, Computer Graphics, Visual Effects, 3D Visualization, Animation, Rendering, Modeling, Computer Vision, Reality Capture, Film, Video Games, Interactive Experiences, Highly Realistic Real-time Rendering in Unity and Unreal Engines, GPU Shading Languages

R&D, Innovation, Virtual Teams, Technical Direction, New Business Development, Innovation Management, Product Development, Product Management, Start-ups, Team Leadership, Entrepreneurship, Technology Integration, Software Solution Architecture, Cloud Computing & Applications, SaaS, Web Service APIs