

Benjamin Lipman

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Summary

Leverages production experience in VFX, simulation, and real-time graphics to provide high-quality digital content and productivity tools. Experience includes developing plugins for content creators, rejuvenating legacy codebases to modern practices and integration of code libraries for computer vision, realtime graphics, and 3d mesh processing. Known for delivering high-quality product in fast-pace environments both in teams and as sole-proprietor.

Skills

Languages:	C++, C#, python, lua, javascript
Libraries:	OpenGL, TBB, CUDA
SDK:	3ds Max , BMD Fusion, Nuke, Maya, Mel
Platforms:	Win32, Unity3D, node.js
VFX Production:	3ds Max, Maya, Adobe CC, BMD Fusion, Realflow

Work Experience

Blipland Media, LLC *Sole-Proprietor*

Sep 2012-present

- **Indicated, Inc:** **VR Solutions**
 - Implimented VR Camera preview system for director feedback in c++ and c#.
 - Produced multi-person VR collaboration app for reviewing CT scans or molecular data.
- **Thinkbox Software:** **XMesh MY, XMesh NK**
 - Enabled efficient mesh caching and playback in major 3d animation and compositing applications (Maya, Nuke) by using c++ and python on windows, osx and linux.
 - Created more efficient playback during editing phase with proxy-mode using openGL to directly draw primitives or boundary representations instead of loading from disk.
- **Duke University:** **Biomedical engineering research animations**
 - Produced animations directly from research data using a volumetric rendering pipeline.
 - Demonstrated probe device inside the body with ray-marching of ultrasound overlays.
- **Autodesk, Inc.:** **"Normal Bump" feature shipping in 3ds max 7.**
 - Let users add perceived detail to meshes with normal maps, via plugin written in c++.

Chyronhego, Inc *Senior Software Engineer*

Apr 2015-Jul 2017

- **LyricX Real-time Graphics**
 - Transformed legacy product with multi-million-line 18 year-old code base into a new flagship product adhering to modern c++ 2014 standard, openGL 4.5, separating UI from business logic, support multi-threading and concurrent dispatch.
 - Migrated team into a more agile process using Jira, git, scrum, and CI builds and testing.

- Notable Clients include: **Johnson & Johnson, Amgen, TEDmed, Bayer, Mars, Novartis, and Ethicon**

Technical Director/Generalist (2001-2007)

- Increased output by 500% over two years, growing animation department from 5 to 30 people by creating a scalable pipeline, detailed training materials, and hosting tutorial sessions.
- Improved consistency and quality of medical animations at gross, cellular and molecular scales for hundreds of animations and illustrations with production templates, and creating tools and techniques for production.
- Improved quality and detail of gross anatomy animations by registering, segmenting, and repairing the 4k film scans from the Visible Human Project, resulting in increase 1,600% voxel dataset.

R&D Staff Founding Member (2008-2013)

- Increased ATI's technology portfolio with over 40 plugins and modules for 3dsmax and Fusion, including:
 - Molecular tools for importing PDBs, generating covalent bonds, amino acid chains, h-bonds, simulating conformational states, and surfaces.
 - Packing cellular structures and eliminating self-intersections.
 - Volumetric rendering of ct/mri and macrotome data within traditional content creation packages.
- Increased company's capabilities, accepting over \$4.5 million in additional contracts by creating stereoscopic animation, surgical simulations, and other interactive products.
- Increased code performance by up to 20x by rewriting image processing tools to be multithreaded to use all cpu cores and us CUDA or openCL for gpu saturation.
- Provided flexibility to artists to convert data between volumetric representation and polygonal data and back with tools written in c++ and OpenGL.

Surgical Simulation (2010-2013)

- Produced highly interactive surgical simulators for iPad for client, Ethicon, Inc.
 - Created experience of simultaneous pen and touch inputs with custom win32 device hooks.
 - Optimized surgical product to work on low performance devices such as iPad and android tablets.
- Implemented dynamic mesh processing for live cutting of objects.
 - Created convincing unconstrained cutting experience with a virtual scalpel by using CGAL, c++.
- Thin client for viewing medical scans and collaborating with specialists.
 - Created differentiated product with real volumetric rendering in real time on mobile devices.
 - Increased interactivity to maintain high fps with auto-proxy mode that renders camera to a texture smaller than the screen size.
 - Increased interactivity by viewing content before all detail is downloaded.
 - Increased clarity of scans with simulated lighting via gradient analysis and spherical lookup.

Education

William Paterson University of New Jersey *bfa*

Aug 2002

Portfolio

Videos available at blipland.com