Benjamin Lipman

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Summary

Expert in real-time graphics, VFX, and simulations, creating top-tier digital content and tools. Strong track record in interactive productions, plugin development, legacy code upgrades, and integrating libraries for computer vision and 3D mesh processing. Delivers results solo or with a team.

Skills

Languages:	C++, C#, python, JavaScript
Platforms:	Unity3D, Win32, node.js, Android, IOS, WebGL
Libraries:	OpenGL, TBB, CUDA, OpenCV,
SDK:	3dsmax, BMD Fusion, Nuke, Maya, AutoCAD
VFX Production:	3dsmax, Maya, Adobe Photoshop, Substance Painter, BMD Fusion

Work Experience

Blipland Media, LLC *Sole-Proprietor* — Sep 2012-present

- **Indicated, Inc:** **AR and VR Solutions for the Medical / Scientific Communities**
  - Created 20+ high-end interactive AR experiences for pharmaceutical sales teams and trade shows.
  - Produced multi-person VR collaboration app for reviewing CT scans or molecular data.
  - Notable Clients: *AstraZenica, Boehringer Ingelheim, Novartis, Novo Nordisk, GoodRX, Biogen, Moderna, Coherus, Incyte, Salix, Biohaven, Eli Lilly*
- **Theometrics, LLC:** **TheoCAD, TheoSim**
  - TheoCAD, c++, Job-site measurement: As-Built, Forensics, and layout directly in AutoCAD
  - TheoSim, Unity, a job site simulator. 3d environment via 3rd person player with full simulation of Leica Robotic Totalstation, and a real connection to TheoCAD via serial port
- **Thinkbox Software:** **XMesh MY, XMesh NK**
  - Developed mesh caching and playback for Maya and Nuke, C++, Python.
  - Enabled faster editing playback by using OpenGL proxy-mode to draw primitives or boundaries directly, eliminating disk loading.
- **Duke University:** **Biomedical engineering research animations**
  - Produced animations directly from research data using a volumetric rendering pipeline.
  - Demonstrated probe device inside the body with raymarching of ultrasound overlays.
- **Autodesk, Inc.:** **"*Normal Bump*" feature shipping in 3ds max 7.**
  - Normal Texture adds perceived detail to meshes.

Chyronhego, Inc *Senior Software Engineer* — Apr 2015-Jul 2017

- **LyricX Real-time Graphics**
  - Revamped an 18-year-old legacy product into a flagship solution by updating to C++14, implementing OpenGL 4.5, separating UI from business logic, and enabling multi-threading.

- Transitioned team to agile practices with Jira, git, scrum, and CI-based testing.

Anatomical Travelogue, LLC *Senior Staff* **Nov 2001- Jun 2013**

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

Technical Director/Generalist (2001-2007)

- Output increased by 500% over two years, with the animation department expanding from 5 to 30 people through the development of a scalable pipeline, comprehensive training materials, and 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 products 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.

Education

William Paterson University of New Jersey *bfa*

Portfolio

Videos available at blipland.com