

Aner Ben-Artzi, Ph.D.

Contact

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Education

Ph.D. in Computer Science (May 2007)

Columbia University, New York, NY
Thesis: Final-Placement Material Editing

M.S. in Computer Science (Feb 2004)

Topic: Interactive Photo-Realistic Rendering with Acquired Data
Columbia University, New York, NY

B.A. in Computer Science (May 2001)

University of California, Berkeley, CA
Emphasis: Databases

Professional Experience (post-graduate)

Sony Pictures Imageworks — Culver City, CA (June 2007-Present)

Software Engineer II – Research and Development

Research with a strong emphasis on practical and immediately useful implementation. Develop in-house tools to automate and assist generation of computer-graphics for animated and live-action feature films. Research and development of toolsets for computer assisted creation of 3D for live action pictures.

Publications

Ben-Artzi, Aner; Egan, Kevin; Durand, Frédo; Ramamoorthi, Ravi. **A Precomputed Polynomial Representation for Interactive BRDF Editing with Global Illumination**. ACM Transactions on Graphics, April 2008

Ben-Artzi, Aner; Overbeck, Ryan; Ramamoorthi, Ravi. **Real-Time BRDF Editing in Complex Lighting**. ACM Transactions on Graphics, July 2006 (SIGGRAPH 2006).

Overbeck, Ryan; Ben-Artzi, Aner; Grinspun, Eitan; Ramamoorthi, Ravi. **Exploiting Temporal Coherence for Incremental All-Frequency Relighting**. Eurographics Symposium on Rendering 2006.

Lawrence, Jason; Ben-Artzi, Aner; DeCoro, Chris; Matusik, Wojciech; Pfister, Hanspeter; Ramamoorthi, Ravi; Rusinkiewicz, Szymon. **Inverse Shade Trees for Non-Parametric Material Representation and Editing**. ACM Transactions on Graphics, July 2006 (SIGGRAPH 2006).

Ben-Artzi, Aner; Ramamoorthi, Ravi; Agarwala, Maneesh. **Efficient Shadows from Sampled Environment Maps**. Journal of Graphics Tools. 11, 1. 13-36, 2006.

Ben-Artzi, Aner. **Approximating the Reflection Integral as a Summation: Where did the delta go?** Tech Report CUCS-042-05, Columbia University, October 2005.

Ben-Artzi, Aner. **Interactive, Photorealistic Rendering with Acquired Data**. Candidacy Exam, Columbia University, June 2004.

Doctoral Thesis

Final-Placement Material Editing

High-Quality photorealistic and artistic editing of materials in computer generated scenes. Precomputation and basis extraction methods for high-dimensional tensors store symbolic representations of a CG scene. User input guides interactive rendering of changing material properties.

Technical Skills

Computer Languages:	C/C++ (expert), Python, Java, Lisp, SQL
Development Technologies:	OpenGL, Qt, PyQt, Autodesk Maya, CG
Development Environments:	Linux (emacs, shell scripts, make, svn, eclipse), Windows (Visual Studio)
Project environment experience:	Independent research, large active codebases, library development, application development

Talks and Presentations

Siggraph 2008 – Paper Talk	Los Angeles, CA
UC Riverside Computer Graphics Colloquium 2007	Riverside, CA
Tel-Aviv University Graphics Colloquium 2007	Tel-Aviv, Israel
UCSB Computer Science Colloquium 2006	Santa Barbara, CA
Rcafe at Columbia University 2006	New York, NY
Siggraph 2006 – Paper Talk	Boston, MA
Rcafe at Columbia University 2005	New York, NY
Siggraph 2004 – Poster Presentation	Los Angeles, CA

Teaching/TA Experience

Computer Graphics (COMS 4160)	Columbia University
Database Systems (COMS W4111)	Columbia University
Introduction to Database Systems (CS186)	UC Berkeley
Machine Structures (CS61c)	UC Berkeley

Pre-graduate Professional Experience

CoverAll — Van Nuys, CA (2005)
Independent Systems Consultant – Assess and advise.
Property Boulevard — New York / California (2002-2004)
Systems Programmer – Create integrated Help System.
IO Image — Hertzelia, Israel (2000)
Summer Internship – Member of data visualization team in image analysis.

Peer Review Service

ACM Siggraph
Transactions on Visualization and Computer Graphics
Eurographics Symposium on Rendering
Eurographics
The Visual Computer

Languages

English / Hebrew (fluent), Spanish (working knowledge)

Other Interests and Hobbies

Bicycling, Camping, Sailing, Woodworking, Cooking, Traveling