

## Jongmin Baek (Ph. D.)

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INTERESTS      Computational photography, image filtering, low- and medium-level computer vision, signal processing, computational optics.

EDUCATION      **Stanford University**, Stanford, CA USA

Ph.D. in Computer Science (2008 – 2013)

- Thesis title: *WYSIWYG Computational Photography via Viewfinder Editing*
- Adviser: Professor Marc Levoy

M.S. in Computer Science (2008 – 2011; GPA 4.3/4.0)

**Massachusetts Institute of Technology**, Cambridge, MA USA

M.Eng. in Electrical Engineering and Computer Science (2008)

- Thesis title: *Multi-channel Coded-aperture Photography*
- Adviser: Professor Frédo Durand

B.S. in Computer Science and Engineering (2004 – 2008; GPA 5.0/5.0)

- Adviser: D. Scott Cyphers

B.S. in Theoretical Mathematics (2004 – 2008; GPA 5.0/5.0)

- Adviser: Professor Tomasz Mrowka

ACCEPTED PUBLICATIONS      Baek, J., Pająk, D., Kim, K., Pulli, K. and Levoy, M. WYSIWYG Computational Photography via Viewfinder Editing. *ACM SIGGRAPH Asia*. 2013.

Baek, J., Adams, A. B. and Dolson, J. Lattice-based High-Dimensional Gaussian Filtering and the Permutohedral Lattice. *Journal of Mathematical Imaging and Vision*. 2013.

Baek, J., Jacobs, D. E. and Levoy, M. Accelerating Spatially Varying Gaussian Filters. *ACM SIGGRAPH Asia*. 2010.

Adams, A. B., Talvala, E., Park, S. H., Jacobs, D. E., Ajdin, B., Gelfand, N., Dolson, J., Vaquero, D., Baek, J., Tico, M., Lensch, H. P. A., Matusik, W., Pulli, K., Horowitz, M. and Levoy, M. The Frankencamera: an Experimental Platform for Computational Photography. *ACM SIGGRAPH*. 2010.

Dolson, J., Baek, J., Plagemann, C. and Thrun, S. Upsampling Range Data in Dynamic Environments. *IEEE Computer Vision and Pattern Recognition*. 2010.

Baek, J. Transfer Efficiency and Depth Invariance in Computational Cameras. *IEEE International Conference in Computational Photography*. 2010.

Adams, A. B., Baek, J. and Davis, M. A. Fast High-Dimensional Filtering using the Permutohedral Lattice. *Eurographics*. 2010.



**Palo Alto Research Center**, Palo Alto, CA USA

*Summer intern in Intelligent Systems Lab (ISL)*

**Summer 2007**

- Developed and implemented a generic interface and framework for training binary classifiers, to be utilized in other concurrent projects in the lab; implemented several computer-vision algorithms from the current literature and conducted comparison studies. (C++)

**The Media Lab, MIT**, Cambridge, MA USA

*Undergraduate research in Sociable Media Group*

**Fall 2006—Spring 2007**

- Assisted in development of RadioActive, an audiobased forum for smart-phone users, with emphasis on visualization features. (Java)

**Computer Science & Artificial Intelligence Lab, MIT**, Cambridge, MA USA

*Undergraduate research in Software Design Group*

**Summer 2006**

- Developed a stand-alone visualizer module for the new release of Alloy, a first-order-logic model finder. (Java)

**Department of Mathematics, MIT**, Cambridge, MA USA

*Undergraduate research in applied mathematics*

**Summer 2006**

- Pursued a geometric approach to Erdős-type distance problems in discrete geometry that have known functional-analytic solutions.

**Fujitsu Technology Solutions**, Sunnyvale, CA USA

Formerly Fujitsu-Siemens Computers.

*Summer engineering intern*

**Summer 2005**

- Wrote a configurable stub to simulate deployment of a server cluster management software, which resulted in savings of thousands of dollars and several weeks in development cycle. (C++, Perl)

RECOGNITIONS

- Recipient of Lucent Technology Fellowship (Stanford Graduate Fellowship), 2010.
- Grand prize, CS348B Rendering Competition (joint work with David E. Jacobs and Myers A. Davis). Featured in *Physically Based Rendering*, 2nd ed.
- Finalist, CS248 Video Game Competition.
- National Science Foundation Graduate Research Fellowship: Honorable Mention (2009)
- William Lowell Putnam Mathematical Competition: Honorable Mention (2005)
- USA Mathematical Olympiad: Winner (2004), Honorable Mention (2002, 2003)