

# Brandon Michael Smith

Postdoctoral Research Associate

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## Skills

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- **Primary areas:** computer vision, computational imaging, image processing
- **Languages and libraries:** C/C++, MATLAB, Java, Objective-C, OpenCV, OpenGL

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## Education

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### University of Wisconsin-Madison

- Ph.D. in Computer Sciences, focus: computer vision May 2014
- M.S. in Computer Sciences May 2009
- NSF Graduate Research Fellow Sep 2009 – Aug 2012

### University of Nebraska-Lincoln

- B.S. in Computer Engineering May 2007
- B.S. in Electrical Engineering May 2007
- Honors Program graduate

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## Employment

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### University of Wisconsin-Madison Department of Computer Sciences

Madison, WI

*Postdoctoral Research Associate*

Jul 2014 – present

*Graduate Research Assistant*

Jan 2008 – May 2014

*Graduate Teaching Assistant*

Aug 2007 – Dec 2007

- Lead author of 10+ papers in top venues, e.g., CVPR, SIGGRAPH, ICCV, ECCV
- Collaborated with computer vision researchers, mentored younger students
- Co-authored several successful grant proposals

### KagenAir LLC

Appleton, WI

*Technical Consultant*

Aug 2015 – present

- Developed computer vision functionality for the Sensitometer mobile application (available on iTunes), which measures pupillary light reflex
- Effort led by former U.S. Representative Steve Kagen, M.D.

### Adobe Systems Incorporated

San Jose, CA

*Computer Vision Research Intern*

Summers 2009, 2013

- Worked on facial landmark localization: US Patent 9129152
- Worked on image-based modeling and 3D reconstruction: US Patent Application 12852349

### Undergraduate summer internships

- The Boeing Company, Saint Louis, MO 2006
- Sandia National Laboratory, Livermore, CA 2005
- National Institute of Standards and Technology (NIST), Boulder, CO 2004

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## Honors and Awards

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- **Fellow**, *National Science Foundation Graduate Research Fellowship Program* 2009 – 2012
- **Summer Graduate Research Fellowship**, *University of Wisconsin–Madison Department of Computer Sciences Summer Research Assistant Award* Summer 2008
- **Dean’s List** (every semester), *University of Nebraska–Lincoln College of Engineering and Technology* 2002 – 2007

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## Selected Publications

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- **Brandon M. Smith**, Pratham Desai, Vishal Agarwal, Mohit Gupta. *CoLux: Multi-Object 3D Micro-Motion Analysis Using Speckle Imaging*, ACM Trans. Graph. (also Proc. SIGGRAPH), 2017.
- **Brandon M. Smith**, Charles R. Dyer. *Pose-Robust 3D Facial Landmark Estimation from a Single 2D Image*. 27th British Machine Vision Conference (BMVC), 2016.
- Hyunwoo J. Kim\*, **Brandon M. Smith**\*, Nagesh Adluru, Charles R. Dyer, Sterling C. Johnson, Vikas Singh. *Abundant Inverse Regression using Sufficient Reduction and its Applications*. European Conference on Computer Vision (ECCV), 2016. \*Joint first authors
- **Brandon M. Smith**, Li Zhang. *Collaborative Facial Landmark Localization for Transferring Annotations Across Datasets*. European Conference on Computer Vision (ECCV), 2014.
- **Brandon M. Smith**, Jonathan Brandt, Zhe Lin, Li Zhang. *Nonparametric Context Modeling of Local Appearance for Pose- and Expression-Robust Facial Landmark Localization*. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR), 2014.
- **Brandon M. Smith**, Li Zhang, Jonathan Brandt, Zhe Lin, Jianchao Yang. *Exemplar-Based Face Parsing*. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR), 2013.
- **Brandon M. Smith**, Li Zhang. *Joint Face Alignment with Non-Parametric Shape Models*. European Conference on Computer Vision (ECCV), 2012.
- **Brandon M. Smith**, Shengqi Zhu, Li Zhang. *Face Image Retrieval by Shape Manipulation*. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR), 2011.
- **Brandon M. Smith**, Li Zhang, Hailin Jin, Aseem Agarwala. *Light Field Video Stabilization*. 12<sup>th</sup> IEEE International Conference on Computer Vision (ICCV), 2009.
- **Brandon M. Smith**, Li Zhang, Hailin Jin. *Stereo Matching with Nonparametric Smoothness Priors in Feature Space*. IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR), 2009.
- Jonathan Brandt, Zhe Lin, **Brandon M. Smith**. *Exemplar-based Feature Weighting*. United States Patent 9129152. Published Sep 8, 2015.

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## Volunteer and Leadership Positions

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- **Program Committee Member**, *International Joint Conference on Artificial Intelligence* 2016
- **Treasurer**, *UW–Madison Student Chapter of the Association for Computing Machinery* 2010 – 2011
- **Organizer**, *UW–Madison Computer Vision Reading Group* Spring 2011, Spring 2017
- **Graduate Student Rep.**, *UW–Madison CS Department Lobby Renovation Committee* 2011 – 2012
- **Chairperson**, *UNL Student Chapter of the Association for Computing Machinery* Spring 2007
- **Secretary**, *UNL Student Chapter of the Association for Computing Machinery* 2005 – 2006
- **Undergraduate Rep.**, *UNL Dept. of Comp. Sci. and Engr. Academic Appeals Committee* 2005 – 2006
- **Paper Reviewer** for *CVPR, ICCV, ECCV, FG, IJCAI, 3DV, 3DIMPVT, IJCV, Image & Vision Comp.*