

Brandon Michael Smith

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Education

M.S. in Computer Science, University of Wisconsin-Madison, May 2009
B.S. in Computer Engineering, University of Nebraska-Lincoln, May 2007
B.S. in Electrical Engineering, University of Nebraska-Lincoln, May 2007

Educational Goal

Ph.D. in Computer Science, University of Wisconsin-Madison (started August 2007)

Experiences

January 2008 – present — *Research Assistant, Department of Computer Sciences, University of Wisconsin-Madison.* I currently work with Prof. Li Zhang in the area of computer vision, and more specifically multiple-view stereo.

Summer 2009 — *Intern, Advanced Technology Labs, Adobe Systems Incorporated, San Jose, CA.* I am currently working with Hailin Jin on interactive image-based modeling of curved surfaces.

August 2007 – December 2007 — *Teaching Assistant, Department of Computer Sciences, University of Wisconsin-Madison.* I held weekly lab hours for CS 367, an undergraduate course on data structures and algorithms. Other responsibilities included grading programming and homework assignments and tests.

August 2005 – May 2007 — *Undergraduate Researcher, Undergraduate Creative Activities and Research Experiences (UCARE)/University of Nebraska-Lincoln Computer Sciences and Engineering Department.* I collaborated with Dr. Stephen Reichenbach and his research group on the development of the Java-based GC Image software application, which is used for visualizing, processing, analyzing, and reporting on images produced in two-dimensional gas chromatography (GCxGC). Specifically, I developed user interactivity features for the 3D visualization of GCxGC data. I also developed colorization techniques to illuminate features in large GCxGC datasets.

Summer 2006 — *Intern, Electronic Systems Integration Laboratory, The Boeing Company, St. Louis, MO.* I developed test bench motherboards using Very-High-Speed Integrated Circuit Hardware Description Language (VHDL) and created low-level C programs for testing motherboard components.

Summer 2005 — *Intern, Sandia Institute for Modeling and Simulation, Sandia National Laboratories, Livermore, CA.* I collaborated with Dr. Rose Tsang and her team in the development of the U.S. Borders Software Application, which simulates traffic flow at key points on the U.S. borders. I studied radiation detection technology and created a Java-based software model of radiation-detecting portals.

August 2004 – May 2005 — *Undergraduate Researcher, Undergraduate Creative Activities & Research Experiences (UCARE)/University of Nebraska-Lincoln Computer Science and Engineering Department.* I studied energy-efficiency-optimizing schemes for large, heterogeneous hard drive arrays and modified a hard drive simulator to include energy consumption data.

Summer 2004 — *Intern, Summer Undergraduate Research Fellowship (SURF), Scientific Applications and Visualization Group (SAVG), National Institute of Standards and Technology (NIST), Boulder, CO.* I

studied 3D immersive scientific visualization, developed UNIX-style commands for generating and modifying 3D geometric data, and created various 3D visualizations.

Spring 2003 — Volunteer *High School Tutor, Classic Upward Bound, Lincoln, NE*. I tutored high school students in math and science after school two days a week.

Publications, Presentations, and Projects

Brandon M. Smith, Li Zhang, Hailin Jin, Aseem Agarwala. *Light Field Video Stabilization*. International Conference on Computer Vision (ICCV), Kyoto, Japan. September/October 2009. [Coming soon]

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), Miami, FL. June 2009.

Brandon M. Smith, David G. Stork, Li Zhang. *Three-dimensional reconstruction from multiple reflected views within a realist painting: An application to Scott Fraser's "Three way vanitas."* 21st Annual IS&T/SPIE Symposium on Electronic Imaging, San Jose, CA. January 2009.

Brandon M. Smith, Stephen Reichenbach (faculty sponsor). *Comprehensive 2D Gas Chromatography Mass Spectrometry (GCxGC-MS) 3D Colorization*. University of Nebraska-Lincoln Honors Program thesis and Undergraduate Creative Activities and Research Experiences (UCARE) project, Lincoln, NE. April 2007.

Brandon M. Smith, Rose P. Tsang. *Radiation Portal Sensors: A Software-Based Model for the Borders Application*. Intern Poster Symposium, Sandia National Laboratory. Livermore, CA. August 2005.

Brandon M. Smith, Adele Peskin. *A Set of Tools for Manipulating Scientific Applications and Visualization Group (SAVG) Files*. National Institute of Standards and Technology—internal publication and oral presentation. Boulder, CO. August 2004.

Software Skills

C/C++, MATLAB, Java/Java3D, VHDL, GAMS, OpenGL (some).

Organizations

Chairperson of the University of Nebraska-Lincoln student chapter of the Association for Computing Machinery (ACM), which is the main student organization for the Computer Science and Engineering Department, during Spring 2007; secretary during 2005 and 2006

Member of the UNL student chapter of the Institute of Electrical and Electronics Engineers (IEEE)

Undergraduate representative on the University of Nebraska-Lincoln Computer Science and Engineering Department Academic Appeals Committee, 2005 and 2006

Honors

Recipient of a three-year 2009 National Science Foundation (NSF) Graduate Research Fellowship (GRF)

Recipient of a summer graduate research fellowship to study multiple-view stereo for 3D scene reconstruction, Computer Sciences Department, University of Wisconsin-Madison

Named to the University of Nebraska-Lincoln College of Engineering and Technology Dean's List every undergraduate semester

University of Nebraska-Lincoln Honors Program graduate, Spring 2007