

Tyler Michael Johnson

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- EDUCATION** **University of North Carolina**, Chapel Hill, NC
Ph.D. Computer Science, Dec 2009
Thesis: A Cooperative Approach to Continuous Calibration in Multi-Projector Displays
Advisor: Prof. Henry Fuchs
M.S. Computer Science, May 2009
- North Carolina State University**, Raleigh, NC
B.S. Computer Science, May 2005, **GPA**: 4.0 / 4.0 overall, 4.0 / 4.0 major
Valedictorian, *summa cum laude* with honors. **Minors**: German and Mathematics
- EXPERIENCE** **Senior Software Engineer**, Scalable Display Technologies, Cambridge, MA, **Feb 2010 to present**
- Algorithm and feature development for multi-projector display calibration products
 - GPGPU calibration pipeline implementation for real-time calibration preview
 - Real-time mesh tweaking for orthographic and perspective scenes
 - Camera and screen reconstruction (multi-camera, pan-tilt, curved screens)
 - TCP & UPD multi-cast for remote display calibration and image generation
- Research Assistant**, Wide Area Visuals project, **August 2005 to Feb 2010**
Henry Fuchs, Greg Welch, and Herman Towles
- Automatic and continuous calibration of multi-projector display systems
 - Functional reconstruction and estimation of display surface geometry
- IBM Corp**, Internship, RTP, NC, **June 2004 to August 2005**
WebSphere Application Server Performance
- Developed tools to automate statistical analysis of performance data
 - Testing/development, WebSphere Application Server performance monitoring tools
 - Developed Pentium 4 cache simulation engine to aid in identifying performance issues
- SKILLS** C/C++, C#, Java, OpenGL, GLSL, Cg, Boost
- AWARDS** Honorable Mention for Best Paper Award, ProCams 2007
Scholarly Achievement Award- Awarded by CS Dept. NCSU
Hon. Mention - Computing Research Assoc. Outstanding Undergraduate Award 2005
Corporate National Merit Scholarship - Novartis Corp
- PUBLICATIONS** T. Johnson, G. Welch, H. Fuchs, E. La Force, H. Towles, "**A Distributed Cooperative Framework for Continuous Multi-Projector Pose Estimation**" *Proceedings IEEE VR 2009*
- T. Johnson, H. Fuchs, "**A Unified Multi-Surface, Multi-Resolution Workspace with Camera-Based Scanning and Projector-Based Illumination**" *EGVE/IPT 2007*
- T. Johnson, H. Fuchs, "**Real-Time Projector Tracking on Complex Geometry Using Ordinary Imagery**" *ProCams 2007*
- T. Johnson, F. Gyrfas, R. Skarbez, H. Towles, H. Fuchs, "**A Personal Surround Environment: Projective Display with Correction for Display Surface Geometry and Extreme Lens Distortion**" *Proceedings IEEE VR 2007*
- P. Quirk, T. Johnson, R. Skarbez, H. Towles, F. Gyrfas, H. Fuchs "**RANSAC-Assisted Display Model Reconstruction for Projective Display**" *EDT 2006*