

Matthew William Flagg

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objective

Research and development position in the visual effects industry.

experience

Graduate Research Assistant, Georgia Institute of Technology, Atlanta, GA.

August, 2002 – December 2003 (M.S.), August 2004 – present (Ph.D.)

- Researched and built 4 real-time projector-camera systems incorporating vision and graphics under advisement of Dr. James Rehg
- Augmented motion capture lab with high-speed cameras
- Co-authored and published papers in TVCG, CVPR, UIST, Multimedia, ICARCV and PROCAMS at ICCV

Chief Technology Officer, PlayMotion!, Atlanta, GA.

August, 2003 – May, 2008.

- Co-founded company; goal: special effects in real world
- PlayMotion! now has 13 employees, AeA's Technology Innovator of the Year 2005, recognized by Wired magazine, Today show, Discovery, see playmotion.com
- Developed core product prototype, led special projects development, invented vision-based product prototypes, wrote and filed several patents
- Managed engineering staff and set computer vision-based technology roadmap

Research and Development Intern, Industrial Light and Magic, San Francisco, CA.

May, 2006 – August, 2006.

- Worked in Data Capture group, the computer vision arm at ILM
- Contributed to the ILM Image-Based Modeling System, which won a Scientific and Engineering Award (technical Oscar) by the Academy of Motion Picture Arts and Sciences in 2007

Market Research Analyst, Ulrich Research Services, Inc., Orange Park, FL.

June – August, 2001.

- Authored marketing research reports based on statistical analysis of survey data.

Software Engineer, Neurostar Solutions, Inc., Atlanta, GA. September – April, 2000.

- Designed and built a web application (JSP, Oracle) for a senior design project that enables doctors to securely view and analyze patient images.

Software Engineer, Brightstreet, Inc., Cupertino, CA. May – August 2000.

- Constructed a Java code generator for a data access layer, which involved probing MS SQL Server and generating Java Beans.
- Created a demonstration of the Brightstreet software for the cell phone and Palm platforms.

Web Developer, Ramworks, Jacksonville, FL. June – August, 1996 – 1999.

- Aided in the design and production of some very large websites such as jaguars.com, csx.com, and tropicana.com.
- Constructed 3D models and animation controls for 3D avatar-based chat system

education

Georgia Institute of Technology, Atlanta, GA.

Major: Computer Science with a concentration in Computer Vision and Graphics

Minor: Industrial Engineering

Ph.D., graduation expected in 2009

M.S., December 2003. GPA 3.64

B.S., May 2002. GPA 3.13

skills

- Experienced programmer in the following languages: C, C++, Java, Matlab, Smalltalk, XSLT and some Perl and Lisp for UNIX and Windows platforms.
- Adobe Photoshop, Adobe Illustrator, Maya, Primatte for Adobe After Effects, Vicon iQ, Vicon Workstation, SPSS
- Knowledgeable in the following APIs: OpenGL, Direct3D9, OpenCV, IPL, IPP
- Utilized popular software engineering techniques such as design patterns, refactoring, and UML modeling during multiple internships.
- Semi-fluent in french (mother is French)
- Excellent technical writing skills

papers

- **Projector-Guided Painting**
Matthew Flagg and James M. Rehg, Proceedings of User Interface Software Technology (UIST), Montreux, Switzerland, October 2006.
- **Shadow Elimination and Blinding Light Suppression for Interactive Projected Displays**
Jay Summet, Matthew Flagg, Tat-Jen Cham, James M. Rehg, Rahul Sukthankar, Transactions on Visualization and Computer Graphics, Volume 13, Number 3, May/June 2007.
- **GVU-PROCAMS: Enabling Novel Projected Interfaces**
Jay Summet, Matthew Flagg, James M. Rehg, and Gregory Abowd, ACM Multimedia, Santa Barbara, CA, October 2006.
- **Improving the Speed of Virtual Rear Projection: A GPU-Centric Approach**
Matthew Flagg, Jay Summet, James M. Rehg,
IEEE International Workshop on Projector-Camera Systems (PROCAMS) held in conjunction with the *IEEE International Conference on Computer Vision and Pattern Recognition (CVPR 2005)*, June, 2005, San Diego.
- **Robust Projected Displays for Ubiquitous Computing**
Jay Summet, Matthew Flagg, Mark Ashdown, Rahul Sukthankar, James M. Rehg, Gregory Abowd, Tat-

Jen Cham, Appeared in *Proceedings of Ubicomp Workshop on Ubiquitous Display Environments*, September 2004.

- **A Flexible Projector-Camera System for Multi-Planar Displays**

Mark Ashdown, Matthew Flagg, Rahul Sukthankar, James M. Rehg,
IEEE Conference on Computer Vision and Pattern Recognition (CVPR 2004), Jun. 2004

- **Increasing the Usability of Virtual Rear Projection**

Jay Summet, Matthew Flagg, James M. Rehg, Gregory M. Corso, Gregory D. Abowd, Appeared in *IEEE International Workshop on Projector-Camera Systems (PROCAMS)* held in conjunction with the *International Conference on Computer Vision (ICCV 2003)*, Nice, France, October 2003.

- **Projected Light Displays Using Visual Feedback**

J. M. Rehg, M. Flagg, T.-J. Cham, R. Sukthankar, and G. Sukthankar,
Appeared in *International Conference on Control, Automation, Robotics, and Vision*, Singapore, Dec. 2-5, 2002.

- **Oil Painting Assistance Using Projected Light: Bridging the Gap Between Digital and Physical Art**

Matthew Flagg and James M. Rehg, Technical Report GIT-GVU-05-35

activities

- Technology consultant for 2003 Canoe and Kayak World Championships
- Online Editor for *Technique*, school newspaper, 1999-2002
- Co-Founder and President of Georgia Tech Kayak Club, 2001-2002
- Peer Leader for Georgia Tech Housing 1999-2000
- Member of Organizing Committee for CVPR 2009

hobbies

- Cycle touring, running, hiking, kayaking, fishing

references

Available upon request.