

# RUSSELL MANNING

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## EDUCATION

1. **University of Wisconsin, Madison.** September, 1995, to August, 2003. M.S. in Computer Science, 1997. Ph.D. in Computer Vision and Graphics, 2003. Thesis: *Screw-Transform Manifolds for Camera Self Calibration*.
2. **Massachusetts Institute of Technology.** September, 1991, to May, 1992. In Ph.D. program for Computer Science.
3. **California Institute of Technology.** October, 1987, to June, 1991. B.S. in Engineering and Applied Science.

## EMPLOYMENT

1. **University of Wisconsin, Madison, WI.** Research Assistant. June, 1997 to Present. *Research on camera self calibration, scene reconstruction, image-based rendering, and medical image analysis.*
2. **University of Wisconsin, Madison, WI.** Teaching Assistant. September, 1995 to May, 1997. *Taught introductory programming, graded for data structures class, and taught class introducing students to computers.*
3. **Star Media Systems, Naperville, IL.** Software Engineer. January, 1994 to August, 1995. *Created image-processing filters for computer video-editing system.*
4. **Massachusetts Institute of Technology, Cambridge, MA.** Research Assistant. September, 1991 to June, 1992. *Assisted research in medical expert systems.*
5. **California Institute of Technology, Pasadena, CA.** Summer Undergraduate Research Fellowship. Summer, 1990. *Independent research in combinatorics; generalized the Catalan numbers.*
6. **Argonne National Laboratory, Argonne, IL.** Summer Student Research Assistant. Summer, 1989. *Assisted research on automatic program transformation.*
7. **CYTAG Program, Iowa State University, Ames, IA.** Resident Assistant. Summer, 1988. *Supervised students at summer program for gifted youth.*

## HONORS/ACHIEVEMENTS

1. “Outstanding Graduate Student Research Award,” 2003; award given by Wisconsin Computer Science Department for the best thesis research. *Only one award is given per year and past recipients are professors at a variety of distinguished schools: Michael Franklin (Berkeley), Joe Hellerstein (Berkeley), Alvin Lebeck (Duke), Steven Reinhardt (U. Michigan), Steven Seitz (CMU/Washington), Johannes Gehrke (Cornell), Todd Munson (initially at Microsoft Research), Amir Roth (U. Pennsylvania), Daniel Sorin (Duke), and Craig Zilles (U. Illinois).*
2. Vilas Travel Award to present research at CVPR, 2001.
3. Programming contest of the International Conference on Functional Programming; top 10 finish, 2000. *Entered as a 1-person team; winning team had 4 people.*
4. Accepted to Harvard Law School, 1997 (upper 99.3 percentile on LSAT).
5. W. L. Putnam Mathematical Competition, 32nd out of 2500 (Honorable Mention), 1990; chosen for three-person Caltech Putnam team.
6. ACM International Programming Competition; Caltech team, placed 10th overall, 1989-1990.
7. Morgan Ward Prize from Caltech for undergraduate mathematics research, 1989.
8. The Caltech Prize (a large scholarship), 1990-91.
9. Summer Undergraduate Research Fellowship (SURF) from Caltech, 1989-90.
10. Carnation Merit Scholarship from Caltech, 1988-89, 1989-90.
11. Los Angeles Philanthropic Foundation Scholarship, 1988-89, 1989-90.
12. W. C. Byrd Scholarship, 1987-88.
13. Highest overall score out of 205 students in freshman physics at Caltech, 1988. *I am good at physics.*
14. Member of Chicago Area Math Team, in 1986 and 1987. *Team had 15 members chosen by direct competition in Chicago and suburbs; it included Matt Cook (winner of U.S. Math Olympiad) and Eric Winfree (now Caltech professor and winner of a McArthur Genius Fellowship).*
15. Numerous honors in high school math competitions, including 2nd place in Illinois for both “two person team” and “written competition.”

## PROFESSIONAL ACTIVITIES

1. Significant contributions to successful NSF grant proposal “View Synthesis for Dynamic Scenes, With and Without Reconstruction.”
2. Gave Principal Investigator talk at DARPA-funded project meeting, Video Surveillance and Monitoring (VSAM), 1998; helped prepare PI talks for VSAM98 and VSAM99.
3. Speaker at Conf. on Computer Vision and Pattern Recognition (CVPR), 2001 and 1999.
4. 4.9/5.0 overall rating by students for “Would you recommend this teacher” from both sections of Spring 1997 introductory programming class.
5. Student member, Univ. of Wisconsin Computer Sciences Department Publications Committee.

## PUBLICATIONS

### Ph.D. Thesis

1. Russell A. Manning, Screw-transform manifolds for camera self calibration, University of Wisconsin, defended July 3, 2003.

### Refereed Conference Papers

2. Russell A. Manning and Charles R. Dyer, Stratified self calibration from screw-transform manifolds, *European Conf. on Computer Vision*, Copenhagen, Denmark, May 2002, pages IV:131-145 (32% accepted).
3. Russell A. Manning and Charles R. Dyer, Metric self calibration from screw-transform manifolds, *Proc. Computer Vision and Pattern Recognition*, Kauai, Hawaii, December 2001, pages I:590-597 (8% accepted for presentation).
4. Russell A. Manning and Charles R. Dyer, Affine calibration from moving objects, *International Conference on Computer Vision*, Vancouver, British Columbia, June 2001, pages I:494-500 (31% accepted).
5. Russell A. Manning and Charles R. Dyer, Interpolating view and scene motion by dynamic view morphing, *Proc. Computer Vision and Pattern Recognition*, Fort Collins, Colorado, June 1999, pages I:388-394 (15% accepted for presentation).

### Refereed Conference Papers, Under Review

6. Russell A. Manning and Charles R. Dyer, Self calibration without minimization, submitted to 2004 *Conf. on Computer Vision and Pattern Recognition*.
7. Russell A. Manning, The classification of monocular camera displacements, submitted to 2004 *Conf. on Computer Vision and Pattern Recognition*.

### Book Chapters

8. Russell A. Manning and Charles R. Dyer, Dynamic view interpolation without affine reconstruction, in *Confluence of Computer Vision and Computer Graphics*, A. Leonardis et al., eds., Kluwer, Boston, 2000, pages 123-142.

### Unrefereed Conference Papers

9. Russell A. Manning and Charles R. Dyer, Interpolating view and scene motion by dynamic view morphing, *Proc. Image Understanding Workshop*, 1998, pages 323-330.

### Technical Reports

10. Russell A. Manning and Charles R. Dyer, Research on self calibration without minimization, Computer Sciences Department Technical Report 1490, University of Wisconsin, February 2003.
11. Russell A. Manning and Charles R. Dyer, On screw-transform manifolds, Computer Sciences Department Technical Report 1482, University of Wisconsin, April 2003.
12. Russell A. Manning and Charles R. Dyer, Environment map morphing, Computer Sciences Department Technical Report 1423, University of Wisconsin, December 2000.

13. Russell A. Manning and Charles R. Dyer, Affine calibration from dynamic scenes, Computer Sciences Department Technical Report 1417, University of Wisconsin, March 2000.
14. Russell A. Manning and Charles R. Dyer, Dynamic view morphing, Computer Sciences Department Technical Report 1387, University of Wisconsin, September 1998.

#### **In Preparation**

15. Russell A. Manning and Charles R. Dyer, Screw-transform manifolds, in preparation for *Int. J. Computer Vision*.
16. Russell A. Manning, Moo K. Chung, and Charles R. Dyer, Automatic registration of maturing gray matter, in preparation for *NeuroImage*.
17. Russell A. Manning, A simple method for detecting shape primitives, to be submitted to 2004 *Int. Conf. on Pattern Recognition*.
18. Russell A. Manning, Robust, direct scene reconstruction using silhouettes and structured light, in preparation for *SIGGRAPH*.
19. Russell A. Manning, A new generalization of the Catalan numbers, in preparation for *European Journal of Combinatorics*.