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- Education** UNIVERSITY OF CALIFORNIA, SAN DIEGO La Jolla, CA  
Doctor of Philosophy in Electrical and Computer Engineering, 2006.  
Research Areas: Image Processing, Computer Vision, and Machine Learning.  
Advisors: David Kriegman and Nuno Vasconcelos.
- UNIVERSITY OF CALIFORNIA, SAN DIEGO La Jolla, CA  
Master of Science in Electrical and Computer Engineering, 2004.  
Research Areas: Image Processing, Computer Vision, and Machine Learning.  
Advisors: David Kriegman and Nuno Vasconcelos.
- INDIAN INSTITUTE OF TECHNOLOGY Kharagpur, India  
Bachelor of Technology ( Honors ) in Electrical Engineering, 2001.
- Research** VISION & GRAPHICS LAB, U.C. SAN DIEGO La Jolla, CA  
January 2003 – present.  
Graduate Student Researcher, Department of Electrical and Computer Engineering.
- KRIEGMAN BELHUMEUR VISION TECHNOLOGIES La Jolla, CA  
July 2006 – September 2006.  
Research Intern.
- THE SCRIPPS RESEARCH INSTITUTE La Jolla, CA  
June 2004 – September 2004 and June 2005 – September 2005.  
Research Intern.
- COMPUTER VISION AND ROBOTICS RESEARCH LAB,  
U.C. SAN DIEGO La Jolla, CA  
September 2001 – December 2002.  
Graduate Student Researcher, Department of Electrical and Computer Engineering.
- Honors** Best Paper Award, UCSD Research Review, 2004.  
UCSD Departmental Fellowship, 2001-2002.  
Ranked 17<sup>th</sup>, Higher Secondary Examination, State of Orissa, India, 1997.  
Certificate of Merit, National Standard Examination in Physics, India, 1997.  
Certificate of Merit, National Standard Examination in Physics, India, 1996.  
National Talent Search (NTS) Scholarship, India, 1995-2001.
- Talks** “Object Detection in Cryo-Electron Microscopy”, *Machine Learning and the Life Sciences*, Intel, Berkeley, CA, October 2003.  
“Detecting Particles in Cryoelectron Micrographs: Lessons from Computer Vision and Pattern Recognition”, *Multidisciplinary Workshop on Automatic Particle Selection for Cryoelectron Microscopy*, The Scripps Research Institute (TSRI), La Jolla, CA, April 2003.  
“Dichromatic Separation: Specularity Removal & Editing”, *SIGGRAPH*, Boston, MA, July-August 2006.
- Services** Reviewer for Journal of Structural Biology, IEEE International Conference on Computer Vision, IEEE Conference on Computer Vision and Pattern Recognition.

**Teaching**      Teaching assistant for Computer Vision II (CSE 252B), Spring 2006, UCSD.

### Journal Articles

T. Zickler, S. P. Mallick, D. J. Kriegman, and P. N. Belhumeur, "Color Subspaces as Photometric Invariants", submitted to *International Journal of Computer Vision*.

S. M. Stagg, G. C. Lander, J. Pulokas, D. Fellmann, A. Cheng, J. D. Quispe, S. P. Mallick, R. M. Avila, B. Carragher, and C. S. Potter, "Automated cryoEM data acquisition and analysis of 284,742 particles of GroEL", *Journal of Structural Biology*, Volume 155, Issue 3, September 2006, Pages 470-481.

S. P. Mallick, B. Carragher, C. S. Potter, and D. J. Kriegman, "ACE: Automated CTF Estimation", *Ultramicroscopy*, Volume 104, Issue 1, August 2005, Pages 8-29.

S. P. Mallick, Y. Zhu, and D. Kriegman, "Detecting Particles in cryo-EM micrographs using learned features", *Journal of Structural Biology*, Volume 145, Issues 1-2, January 2004, Pages 52-62. **(The paper earned the cover of this issue).**

Y. Zhu, B. Carragher, R. M. Glaeser, D. Fellmann, C. Bajaj, M. Bern, F. Mouche, F. Haas, R. J. Hall, D. Kriegman, S. J. Ludtke, S. P. Mallick, P. Penczek, A. Roseman, F. Sigworth, N. Volkman, and C. Potter, "Automatic particle selection: results of a comparative study", *Journal of Structural Biology*, Volume 145, Issues 1-2, January 2004, Pages 3-14.

### Conference Papers

S. P. Mallick, S. Agarwal, D. Kriegman, S. Belongie, C. Potter, and B. Carragher, "Vision in the Small: Reconstructing the Structure of Protein Macromolecules from Cryo-Electron Micrographs", *British Machine Vision Conference*, Volume I, Pages 1-6, September 2006, Edinburgh, United Kingdom.

T. Zickler, S. P. Mallick, D. J. Kriegman, and P. N. Belhumeur, "Color Subspaces as Photometric Invariants", *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Volume II, Pages 2000-2010, June 2006, New York.

S. P. Mallick, S. Agarwal, D. Kriegman, S. Belongie, C. Potter, and B. Carragher, "Structure and View Estimation for Tomographic Reconstruction: A Bayesian Approach", *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Volume II, Pages 2253-2260, June 2006, New York.

S. P. Mallick, T. E. Zickler, P. N. Belhumeur, and D. J. Kriegman, "Specularity Removal in Images and Videos: A PDE approach", *European Conference on Computer Vision (ECCV)*, Volume I, Pages 550-563, May 2006, Graz, Austria.

S. P. Mallick, T. E. Zickler, D. J. Kriegman, and P. N. Belhumeur, "Beyond Lambert: Reconstructing Specular Surfaces Using Color", *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Volume II, Pages 619-626, 2005, San Diego, California.

S. Agarwal, S. P. Mallick, D. J. Kriegman, and S. J. Belongie, "On Refractive Optical Flow", *European Conference on Computer Vision (ECCV)*, Part II, Pages 483-494, 2004, Prague, Czech Republic.

S. P. Mallick and M. M. Trivedi, "Parametric Face Modeling and Affect Synthesis", *International Conference on Multimedia and Expo (ICME)*, Pages 225-228, July 2003, Baltimore, Maryland.

J. McCall, S. P. Mallick, and M. M. Trivedi, "Real-Time Driver Affect Analysis and Tele-viewing System", *IEEE Intelligent Vehicles Symposium (IV)*, Pages 372-377, June 2003, Columbus, Ohio.

- Sketches** S. P. Mallick, T. Zickler, P. N. Belhumeur, and D. J. Kriegman. “Dichromatic Separation: Specularity Removal and Editiing”, to appear in *SIGGRAPH*, July-Aug 2006, Boston.
- Patents** S. P. Mallick, T. E. Zickler, D. J. Kriegman, and P. N. Belhumeur, “A Novel Color Space Transformation for Computer Vision Algorithms And A Method for Separating and Editing the Diffuse and Glossy Components of Images and Videos”, Provisional Patent SD2005-260, 2005.
- Software** Developed Automated CTF Estimation (ACE) – A software for automatically estimating the parameters of the contrast transfer function of an electron microscope using acquired images.
- Skills** Programming Languages: C/C++, Java, MATLAB, OpenGL, Cg.  
Operating Systems: Windows, Linux/Unix.

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