Michael Tao

545 Soda Hall · Berkeley, CA 94720 · (510) 461-2770 · mtao@berkeley.edu

RESEARCHER, ENGINEER, ENTREPRENEUR, PHOTOGRAPHER
Light-fields, image and video processing, computer vision, computational photography

EDUCATION

College of Engineering · University of California, Berkeley
Ph.D. in EECS (Electrical Engineering and Computer Sciences) · **Spring 2014**
Emphasis: Computer Vision and Computational Photography
Adviser: Ravi Ramamoorthi
National Science Foundation Fellow

College of Engineering · University of California, Berkeley
B.S. in EECS w/ honors (Electrical Engineering and Computer Sciences) · **Spring 2010**
Emphasis: Communications, Networks and Systems, Signal Processing
Eta Kappa Nu (EECS Honor Society Member: Former Tutoring Officer)

PROFESSIONAL EXPERIENCE

Perfect 2400 SAT Preparation, Fremont, California
Co-Founder and President, (April 2006- Present)
· Started and directed a growing team with several employees and marketing associates
· Leading role in marketing and product development
· *Expanded the company's profits to six digits and taught hundreds of students; collaborated with Rotary Interact and donated several relief packages to disaster in Japan and polio vaccinations to India and Pakistan*

Adobe Systems Incorporated, San Jose, California
Photoshop Technology Transfer Engineer and Researcher Intern, (May 2012-August 2012, May 2011- August 2011, May 2008- August 2008)
· Developed new tools and image filter algorithms
· *Co-authored and filed five patents for the company*

Qualcomm, San Diego, California
3A Camera Team Engineering Intern, (June 2010 – August 2010)
· Developed new frameworks for auto-white balancing (AWB) and auto-focus systems in mobile cameras
· *Designed a pipeline framework for new AWB algorithms and submitted an IDF for the new auto-focus system*

Zoran Corporation, Sunnyvale, California
Digital Television Engineering Intern, (June 2009 – July 2009)
· Developed verification tools for video/image processing algorithms programmed in MATLAB, C, and C++
· *Designed a full video-pipeline simulator that improved efficiency and verification for digital image processing algorithms*

ACTIVITIES

Daily Californian Newspaper, Berkeley, California
Photo Editor, Senior Editor Board, and Senior Staff Photographer, (February 2012 - Present)
· Photographed mainly sports for Cal's football, basketball, water polo, soccer, and track-and-field
· Lead and managed over 20 staff photographers
· *Hundreds of published photographs in the Daily Californian*

mtaophotography.com, Berkeley, California
Photographer, (August 2008 - Present)
· Photographed animals and landscapes, designed websites
· Blogged about Photoshop techniques, photography techniques, and equipment reviews

MAJOR PUBLICATIONS

[1] **Michael W. Tao**, Sunil Hadap, Jitendra Malik, and Ravi Ramamoorthi. "Depth from Combining Defocus and Correspondence Using Light-Field Cameras". In Proceedings of *International Conference on Computer Vision (ICCV)*, 2013.

[2] **Michael W. Tao**, Jitendra Malik, and Ravi Ramamoorthi. "Sharpening Out of Focus Images using High-Frequency Transfer". In *Computer Graphics Forum (Proceedings of the Eurographics conference)*, 2013.

[3] **Michael W. Tao**, Micah Kimo Johnson, and Sylvain Paris. "Error-Tolerant Image Compositing". In *International Journal of Computer Vision (IJCV)*, 2012.

[4] **Michael W. Tao** and Aravind Krishnaswamy. "Fast Adaptive Edge-Aware Mask Generation". In Proceedings of *Graphics Interface*, 2012.

[5] **Michael W. Tao**, Jiamin Bai, Pushmeet Kohli, and Sylvain Paris. "SimpleFlow: A Non-iterative, Sublinear Optical Flow Algorithm". In *Computer Graphics Forum (Proceedings of the Eurographics conference)*, 2012.

[6] **Michael W. Tao**, Micah K. Johnson, and Sylvain Paris. "Error-tolerant Image Compositing". In Proceedings of *European Conference on Computer Vision (ECCV)*, 2010. **(with oral presentation, ~ 3.2% papers accepted as oral)**

[7] Todd J. Kosloff, **Michael W. Tao**, and Brian A. Barsky. "Depth of Field Postprocessing For Layered Scenes Using Constant-Time Rectangle Spreading**".** In Proceedings of *Graphics Interface*, 2009.

PATENTS

Awarded
[1] U.S. Patent US 8315473 B1,
Variably fast and continuous bilateral approximation filtering using histogram manipulations (**Michael W. Tao**, Jen-Chan Chien).

Filed
[1] U.S. Patent Application No. *XX/XXX,XXX* Unpublished (filing date Nov. 30, 2012) (**Michael W. Tao**, Sunil Hadap).

[2] U.S. Patent Application No. *XX/XXX,XXX*, Unpublished (filing date Nov. 30, 2012) (**Michael W. Tao**, Sunil Hadap).

[3] U.S. Patent Application No. *XX/XXX,XXX*, Unpublished (filing date May. 28, 2012) (Aravind Krishnaswamy, **Michael W. Tao**).

[4] U.S. Patent Application No. *61/091,223*, Unpublished (filing date Aug. 22, 2008) (Jen-Chan Chien, **Michael W. Tao**, Sylvain Paris).

AWARDS

National Science Foundation Fellow
Daily Californian Best News Photography, Daily Californian Best Photo Illustration Photography

SKILLS

MATLAB and C/C++

Related Courses
Graphics
CS184/283 - Advanced Computer Graphics: rendering pipeline, algorithms, anti-aliasing, ray-tracing, transformations, lighting, mesh processing, subdivision, inverse kinematics, computational photography
Computer Vision
CS188   - Introduction to Artificial Intelligence: heuristic search, learning, logical inference, planning, expert systems
CS280   - Computer Vision: image processing and segmentation, line drawing analysis, object models for prediction, recognition
CS294   - Visual Search Engines: sensory, semantic, model, query-context, and interface gap
Signals and Systems
EE120   - Signals and Systems: LTI, Fourier, Laplace, Z-transforms, stability control, AM, FM, feedbacks
EE121   - Introduction to Digital Communication Systems: source coding, channel coding, band modulations, receiver design
EE123   - Digital Signal Processing: FFT, Z-transforms, DFT, wavelets, quantization, digital filter designs
EE126   - Probability and Random Processes: probability in signal processing, distribution, density function, Markov Chains