

Justin C. Domke

CONTACT INFORMATION	A.V. Williams 4470 Computer Science Department University of Maryland College Park, MD 20783 USA	<i>Office:</i> (301) 405-1762 <i>Cell:</i> (301) 377-4120 <i>Fax:</i> (301) 314-9115 <i>E-mail:</i> domke@cs.umd.edu <i>WWW:</i> www.cs.umd.edu/users/domke/
RESEARCH INTERESTS	Statistical Learning and Inference, Probabilistic Graphical Models, Imaging, Signal Processing	
EDUCATION	University of Maryland , College Park, Maryland USA Ph.D., Computer Science, May 2009 (Expected), Advisor: Yiannis Aloimonos <ul style="list-style-type: none">• Thesis Topic: <i>Tractable Learning and Inference in High Treewidth Graphical Models</i> M.S., Computer Science, December 2005 Washington University , Saint Louis, Missouri USA B.S., Physics, B.S., Computer Science, May, 2002	
OTHER RESEARCH EXPERIENCE	Johns Hopkins Medical School , Baltimore, Maryland USA	2002 - 2003
	Researcher in the Anesthesiology Department. Computational modeling of neural systems. Modified physics of models to incorporate anesthetic effects. These models of single neurons and neuronal networks were implemented and used to gain insight into how anesthetic effects at the biological level lead to observed effects at the systems level.	
	University of California , Irvine, California USA	Summer 2001
	Undergraduate researcher in Physics department regarding the IceCube Neutrino Detector. This detector is taking a period of years to build. Using Monte Carlo simulations, determined placement of sections of the detector to maximize performance during construction.	
TEACHING EXPERIENCE	University of Maryland , College Park, Maryland USA	2003 - 2004
	Lecturing teaching assistant for introductory programming and discrete math courses.	
	Washington University , Saint Louis, Missouri USA	2001 - 2002
	Teaching assistant for Advanced Algorithms and machine learning courses.	
BOOK CHAPTERS	[1] Justin Domke. Computational Complexity. <i>Mathematics, It's Not Just Calculus</i> , A. K. Peters. To Appear. An informal introduction to computational universality, the halting problem, P vs. NP, etc., written at the level of a college freshman math major. www.cs.umd.edu/users/domke/compcomp.pdf	
JOURNAL PUBLICATIONS	[2] Justin Domke and Yiannis Aloimonos. Image Transformations and Blurring. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2009. To Appear. [3] Justin Domke and Yiannis Aloimonos. A Probabilistic Notion of Camera Geometry: Calibrated vs. Uncalibrated. <i>Journal of Photogrammetry, Fernerkundung and Geoinformation</i> , volume 1, pages 25-33, 2007	

PEER-REVIEWED
CONFERENCE
PUBLICATIONS

- [4] Justin Domke. Learning Convex Inference of Marginals. *Uncertainty in Artificial Intelligence*, 2008.
- [5] Justin Domke, Alap Karapurkar and Yiannis Aloimonos. Who Killed The Directed Model? *IEEE Conference on Computer Vision and Pattern Recognition*, 2008.
- [6] Justin Domke and Yiannis Aloimonos. Signals on Pencils of Lines. *IEEE International Conference on Computer Vision*, 2007.
- [7] Justin Domke and Yiannis Aloimonos. Multiple View Image Reconstruction: A Harmonic Approach. *IEEE Conference on Computer Vision and Pattern Recognition*, 2007.
- [8] Justin Domke and Yiannis Aloimonos. A Probabilistic Notion of Camera Geometry: Calibrated vs. Uncalibrated. *Photogrammetric Computer Vision*, 2006.
- [9] Justin Domke and Yiannis Aloimonos. Deformation and Viewpoint Invariant Color Histograms. *British Machine Vision Conference*, 2006.
- [10] Justin Domke and Yiannis Aloimonos. A Probabilistic Notion of Correspondence and the Epipolar Constraint. *International Symposium on 3D Data Processing Visualization and Transmission*, 2006.
- [11] Justin Domke and Yiannis Aloimonos. Integration of Visual and Inertial Information for Egomotion: a Stochastic Approach. *International Conference on Robotics and Automation*, 2006.
- [12] Justin Domke and Yiannis Aloimonos. A Probabilistic Framework for Correspondence and Egomotion. *ICCV 2005 Workshop on Dynamic Vision*, published as *Springer Lecture Notes on Computer Science*, volume 4358, pages 232-242, 2007.

UNDER REVIEW

- [13] Crossover Random Fields. Submitted to *Journal of Machine Learning Research*, Oct, 2008.

AWARDS AND
HONORS

Dean's Fellowship Award, Department of Computer Science, University of Maryland (2007-2008)
Outstanding Paper Award, Photogrammetric Computer Vision Conference (2006)
Graduate Fellowship Award, University of Maryland (2003-2005)
Distinction (*cum laude*) B.S., Physics, Washington University (2002)
Distinction (*cum laude*) B.S., Computer Science, Washington University (2002)
Bright Flight Missouri Scholarship (1998-2002)

PATENTS

Object detection apparatus, object detection method and object detection program U.S. patent application 20,080,278,576. Morimichi Nishigaki, Yiannis Aloimonos, and Justin Domke, 2008.

REVIEWER

IEEE Computer Vision and Pattern Recognition, Computer Vision and Image Understanding, International Journal of Humanoid Robotics

REFERENCES

Yiannis Aloimonos
Department of Computer Science
University of Maryland

Daniel DeMenthon
Applied Physics Laboratory
Johns Hopkins University

Cornelia Fermüller
Center for Automation Research
University of Maryland

Abhijit Ogale
Senior Engineer, Google Inc.

(Email addresses available upon request)