

# John Wright

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## EDUCATION

Ph.D. in Electrical Engineering Expected 2009  
University of Illinois at Urbana-Champaign  
Thesis advisor: Prof. Yi Ma

M.S. in Electrical Engineering 2007  
University of Illinois at Urbana-Champaign  
Thesis title: *Segmentation of Multivariate Mixed Data via Lossy Coding and Compression*  
Thesis advisor: Prof. Yi Ma

B.S. in Computer Engineering 2004  
University of Illinois at Urbana-Champaign

## RESEARCH EXPERIENCE

Graduate Research Assistant 2005-present  
Perception and Decision Laboratory University of Illinois at Urbana Champaign  
Developed and analyzed algorithms for data segmentation and classification, image segmentation, image representation, face and object recognition.

Intern Fall 2006  
Visual Computing Group Microsoft Research Asia  
Developed and analyzed a method for data classification based on lossy compression.

Undergraduate Research Assistant Summer 2003, 2004  
Media and Machines Laboratory Washington University in St. Louis  
Developed algorithms for real-time visual anomaly detection and tracking.

## PUBLICATIONS

### JOURNAL

**John Wright**, Allen Yang, Arvind Ganesh and Yi Ma. “Robust Recognition via  $\ell^1$ -minimization,” submitted to *IEEE Transactions on Pattern Analysis and Machine Intelligence*, August 2007.

Allen Yang, **John Wright** and Yi Ma. “Feature Selection for Face Recognition: A Sparse Representation Perspective,” submitted to *IEEE Transactions on Pattern Analysis and Machine Intelligence*, August 2007.

Yoav Sharon, **John Wright** and Yi Ma. “Computing and Relaxing Conditions for Equivalence of  $\ell^1$  and  $\ell^0$  Norm Minimization,” submitted to *IEEE Transactions on Information Theory*, May 2007.

**John Wright**, Yangyu Tao, Zhouchen Lin, Yi Ma and Heung-Yeung Shum. “Classification via Minimum Incremental Coding Length (MICL),” submitted to *IEEE Transactions on Pattern Analysis*

and *Machine Intelligence*, May 2007.

Allen Yang, **John Wright**, Shankar Sastry and Yi Ma. “Unsupervised Segmentation of Natural Images via Lossy Data Compression,” submitted to *Computer Vision and Image Understanding*, April 2007.

Yi Ma, Harm Derksen, Wei Hong and **John Wright**. “Segmentation of Multivariate Mixed Data via Lossy Coding and Compression,” *IEEE Transactions on Pattern Analysis and Machine Intelligence*, to appear September 2007.

Wei Hong, **John Wright**, Kun Huang and Yi Ma. “A Multi-scale Hybrid Linear Model for Lossy Image Representation,” *IEEE Transactions on Image Processing*, November 2006.

## CONFERENCE (REFEREED)

**John Wright**, Yangyu Tao, Zhouchen Lin, Yi Ma and Heung-Yeung Shum. “Classification via Minimum Incremental Coding Length (MICL),” submitted to *Neural Information Processing Systems (NIPS)*, June 2007.

**John Wright**, Wei Hong, Yi Ma, and Harm Derksen. “Segmentation of Multivariate Mixed Data via Lossy Coding and Compression,” In *SPIE conference on Visual Communications and Image Processing (VCIP)*, January 2007.

**John Wright**, Andrew Wagner, Shankar Rao, and Yi Ma. “Homographies and Matching of Ellipses with Applications to Forensic Bloodspatter Reconstruction,” *IEEE Conference on Computer Vision and Pattern Recognition*, New York, June 2006. (acceptance rate 28.1%)

Wei Hong, **John Wright**, Kun Huang, and Yi Ma. “A Multi-scale Hybrid Linear Model for Lossy Image Representation,” In *IEEE International Conference on Computer Vision (ICCV)*, volume 1, pages 764771, October 2005. (acceptance rate 20.4%)

**John Wright** and Robert Pless. “Analysis of Persistent Motion using the 3-D Structure Tensor,” In *IEEE Workshop on Motion and Video Computing*. Oral presentation, January 2005.

## SOFTWARE AND PATENTS

*A Method for Recognizing Partially Occluded Objects.*

U.S. Provisional Patent, under review.

with Arvind Ganesh, Allen Yang and Yi Ma

MATLAB Toolbox for Classification via Lossy Coding.

<http://perception.csl.uiuc.edu/~jnwright/coding/>

with Yi Ma

MATLAB Toolbox for Segmenting Multivariate Mixed Data.

<http://perception.csl.uiuc.edu/~jnwright/coding/>

with Wei Hong, Harm Derksen and Yi Ma

## HONORS AND AWARDS

ECE Distinguished Fellowship, 2005-2006.

Carver Fellowship, 2005.

Bronze Tablet Award, University of Illinois at Urbana-Champaign, 2004.

## PRESENTATIONS

“*A Sparse Representation Perspective on Face Recognition.*” Beckman Institute, University of Illinois at Urbana-Champaign. July 2007.

“*A Lossy Coding Approach to Clustering and Classification.*” Beckman Institute, University of Illinois at Urbana-Champaign. January 2007.

“*A Lossy Coding Approach to Clustering and Classification.*” CSL Student Conference, University of Illinois at Urbana-Champaign. January 2007.

“*Analysis of Persistent Motion Using the 3-D Structure Tensor.*” IEEE Workshop on Motion and Video Computing, January 2007.