

Caiming Xiong

Contact Information	MetaMind Inc. 172 University Ave, Palo Alto, CA, 94301, USA	Mobile: +1-716-435-9316 caimingxiong@ucla.edu http://http://www.stat.ucla.edu/~caiming
Research Interest	Deep Learning, Interactive Robot Learning, Dialogue Learning, Metric Learning, Semi-supervised Clustering, Streaming Temporal Segmentation, Video Action Analysis, Human Computer Interaction, Large Scale Retrieval.	
Education	University of California, Los Angeles Post-Doc, Department of Statistics, June 2014 - Sep 2015, <ul style="list-style-type: none">• Adviser: Professor Song-Chun Zhu• Area of Study: Video Parsing and Interactive Robot Learning. The State University of New York at Buffalo Ph.D., Computer Science and Engineering, May 2014, <ul style="list-style-type: none">• Thesis Topic: <i>Learning From and Actively Selecting Pairwise Constraints in Data Science</i>• Adviser: Professor Jason J. Corso• Area of Study: Active Clustering and Exploration with application to Video Analysis Huazhong University of Science and Technology, Hubei, China M.S., Computer Science and Technology, June 2007 <ul style="list-style-type: none">• Thesis Topic: <i>Automatic rendering of oil painting based on primary sketch</i>• Adviser: Professor Enmin Song• Area of Study: Computing Art B.S., Computer Science and Technology, June 2005	
Research Experience	Senior Researcher Metamind Inc. <ul style="list-style-type: none">• Focusing on deep learning in computer vision. Postdoctoral Researcher Department of Statistics, University of California, Los Angeles(UCLA) <ul style="list-style-type: none">• Research in interactive learning, robot learning from human video and dialogue.• Advisor: Dr. Song-Chun Zhu Research Assistant Department of Computer Science and Engineering, The State University of New York at Buffalo <ul style="list-style-type: none">• Research in active clustering, metric learning, video segmentation, action recognition and video-to-text.• Advisor: Dr. Jason J. Corso (now Associate Professor at University of Michigan) Research Intern Honeywell ACS labs, Minneapolis, MN, USA <ul style="list-style-type: none">• Research in latent topic discovery for domain adaptation.• Mentor: Dr. Scott McCloskey Research Assistant Lotus Hill Institute, Hubei, China <ul style="list-style-type: none">• Research in non-photorealistic rendering techniques.• Mentor: Prof. Songchun Zhu (Dept. Statistics, UCLA) Research Assistant	10/2015 to present 06/2014 to 09/2015 09/2008 to 05/2014 06/2012 to 08/2012 09/2006 to 06/2008 09/2005 to 06/2007

School of Computer Science and Technology,
Huazhong University of Science and Technology, Hubei, China

- Research in multi-layer model for image analysis and oil-painting synthesis.
- Mentor: Prof. Enmin Song (Dept. Computer Science, HUST, China)

Publications
(Peer Reviewed)

- N. Shukla, **C. Xiong** and S.C. Zhu. A Unified Framework for Human-Robot Knowledge Transfer. *AAAI Fall Symposium on AI for Human-Robot Interaction (AI-HRI)*, 2015. **(corresponding author)**
- B. X. Nie, **C. Xiong** and S.C. Zhu. Joint Action Recognition and Pose Estimation From Video. *In Proceedings of IEEE Computer Vision and Pattern Recognition (CVPR)*, 2015.
- C. Xu, S.-H. Hsieh, **C. Xiong**, and J. J. Corso. Can humans fly? Action understanding with multiple classes of actors. *In Proceedings of IEEE Computer Vision and Pattern Recognition (CVPR)*, 2015.
- R. Xu, **C. Xiong**, W. Chen, and J. J. Corso. Jointly modeling deep video and compositional text to bridge vision and language in a unified framework. *In Proceedings of AAAI Conference on Artificial Intelligence (AAAI)*, 2015.
- A. Barbu, D. Barrett, W. Chen, N. Siddharth, **C. Xiong**, J. J. Corso, C. D. Fellbaum, C. Hanson, S. J. Hanson, S. Helie, E. Malaia, B. A. Pearlmutter, J. M. Siskind, T. M. Talavage, and R. B. Wilbur. Seeing is worse than believing: Reading people's minds better than computer vision methods recognize actions. *In Proceedings of European Conference on Computer Vision (ECCV)*, 2014.
- C. Xiong**, Scott McCloskey, Shao-Hang Hsieh and J. J. Corso. Latent Domains Modeling for Visual Domain Adaptation. *In Proceedings of AAAI Conference on Artificial Intelligence (AAAI)*, 2014. **(Oral Presentation)**
- W. Chen, **C. Xiong** and J. J. Corso. Actionness Ranking with Lattice Conditional Ordinal Random Fields. *In Proceedings of IEEE Computer Vision and Pattern Recognition (CVPR)*, 2014.
- C. Xiong**, W. Chen, G. Chen, D. M. Johnson and J. J. Corso. Adaptive Quantization for Hashing: An Information-Based Approach to Learning Binary Codes. *In Proceedings of SIAM International Conference on Data Mining (SDM)*, 2014. **(Oral Presentation)**
- Z. Wang, G.-S. Xia, **C. Xiong** and L. Zhang. Spectral Active Clustering of Remote Sensing Images. *In Proceedings of IEEE International Geoscience and Remote Sensing Symposium (IGARSS)*, 2014.
- C. Xiong**, D. M. Johnson and J. J. Corso. Uncertainty reduction for active image clustering via a hybrid global-local uncertainty model. *In Proceedings of AAAI Conference on Artificial Intelligence (Late-Breaking Papers Track)*, 2013.
- D. M. Johnson, **C. Xiong** and J. J. Corso. Comprehensive cross-hierarchy cluster agreement evaluation. *In Proceedings of AAAI Conference on Artificial Intelligence (Late-Breaking Papers Track)*, 2013.
- C. Xu*, **C. Xiong*** and J. J. Corso. Streaming hierarchical video segmentation. *In Proceedings of European Conference on Computer Vision (ECCV)*, 2012. **(Oral Presentation)**(* indicates joint first author)
- C. Xiong**, D. Johnson, R. Xu and J. J. Corso. Random forests for metric learning with implicit pairwise position dependence. *In Proceedings of ACM SIGKDD International Conference on Knowledge Discovery and Data Mining(KDD)*, 2012. **(Oral Presentation)**

- C. Xiong** and J. J. Corso. Coaction discovery: Segmentation of common actions across multiple videos. *In Proceedings of Multimedia Data Mining Workshop in Conjunction with the ACM SIGKDD Conference on Knowledge Discovery and Data Mining (MDMKDD), 2012. (Oral Presentation)*
- G. Chen, **C. Xiong** and J. J. Corso. Dictionary transfer for image denoising via domain adaptation. *In Proceedings of IEEE International Conference on Image Processing (ICIP), 2012. (Oral Presentation)*
- C. Xiong**, D. Johnson and J. J. Corso. Online Active Constraint Selection For Semi-Supervised Clustering. *In Proceeding of ECAI Active and Incremental Workshop, 2012 (Oral Presentation)*
- C. Xiong**, D. Johnson and J. J. Corso. Efficient max-margin metric learning. *In Proceedings of European Conference on Data Mining (ECDM), 2012. (Oral Presentation) (Best paper award)*
- C. Xiong**, D. Johnson and J. J. Corso. Spectral active clustering via purification of the k-nearest neighbor graph. *In Proceedings of European Conference on Data Mining (ECDM), 2012. (Oral Presentation)*
- D. R. Schlegel, A. Y. C. Chen, **C. Xiong**, J. A. Delmerico, and J. J. Corso. AirTouch: Interacting with computer systems at a distance. *In Proceedings of IEEE Winter Vision Meetings: Workshop on Applications of Computer Vision (WACV), 2011. (Oral Presentation)*
- D. Gagneja, **C. Xiong**, and Jason J. Corso. Towards a parts-based approach to sub-cortical brain structure parsing. *In Proceedings of SPIE Conference on Medical Imaging, 2011.*
- K. Zeng, M. Zhao, **C. Xiong**, and S. C. Zhu. From Image Parsing to Painterly Rendering. *ACM Transactions on Graphics(TOG), 2009.*
- L. Lin, Y. Wang, Y. Liu, **C. Xiong** and K. Zeng. Marker-less Registration Based on Template Tracking for Augmented Reality. *Multimedia Tools and Applications (MTA), 2009.*

**Manuscript
Under Review**

- C. Xiong** ,D. M. Johnson and J. J. Corso. Active Clustering with Model-Based Uncertainty Reduction. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI).*
- D. M. Johnson, **C. Xiong** and J. J. Corso. Semi-Supervised Nonlinear Distance Metric Learning via Forests of Max-Margin Cluster Hierarchies. *IEEE Transactions on Knowledge and Data Engineering (TKDE).*
- A. Barbu, N. Siddharth, **C. Xiong** , J. J. Corso, C. D. Fellbaum, C. Hanson, S. J. Hanson, S. Helie, E. Malaia, B. A. Pearlmutter, J. M. Siskind, T. M. Talavage and R. B. Wilbur. The Compositional Nature of Event Representations in the Human Brain. *Proceedings of the National Academy of Sciences (PNAS).*

**Honors and
Awards**

- CVPR 2014 Young Researcher Travel Award
SDM 2014 Doctoral Forum
SIGKDD 2012 Student Travel Award
ECDM 2012 Best Paper Award

Teaching Experience

The State University of New York at Buffalo, Buffalo, New York USA
Teaching Assistant **01/2010 to 05/2010**

- TA for CSE 555: Introduction to Pattern Recognition
 - Weekly office hours to help with the lecture, homework and projects.
- TA for CSE 562: Database System

Professional Services

Conference and Workshop Organization:

- **Organizing Committee**, Workshop on language and vision (at CVPR 2015)

Journal Reviewer:

- International Journal of Computer Vision (IJCV)
- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)
- IEEE Transactions on Image Processing (TIP)
- IEEE Transactions on Cybernetics
- Neurocomputing
- International Journal of Information Technology and Decision Making
- Pattern Recognition

Conference Reviewer/Program Committee:

- AAAI Conference on Artificial Intelligence (AAAI), 2016
- IEEE Computer Vision and Pattern Recognition (CVPR), 2016
- NIPS workshop on Multimodal Machine Learning (MMML), 2015
- ICCV Workshop on Closing The Loop Between Vision and Language (CLVL), 2015
- IEEE International Conference on Computer Vision (ICCV), 2015
- IEEE International Conference on Robotics and Automation (ICRA), 2015
- IEEE International Conference on Semantic Computing (ICSC), 2013

Programming Skills

Mathematics:

- Applied Mathematics, Statistics, Probability Theory, Matrix Theory, Numerical Analysis, Discrete Mathematics, Combinatorics, Convex Optimization

Computer Vision and Machine Learning:

- Object Detection, Image Description, Image Retrieval, Action Recognition, Human Computer Interaction, Metric Learning, Clustering, Semi-Supervised Learning, Kernel Learning, Natural Language Processing

Computer Programming:

- C, C++, Java, Algorithm, GNU make, OpenCV, PCL, SQL, MySQL, MATLAB, Database and others