

HUAIZU JIANG

Ph.D. Student

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RESEARCH INTEREST

I have broad interest in computer vision, machine learning, natural language processing, and topics at the intersection of vision and graphics.

Particularly, I am interested in (but not limited to) physical world understanding, object detection, instance segmentation, face detection/alignment/recognition, visual attention, visual question answering, etc.

EDUCATION

University of Massachusetts, Amherst, Amherst, MA, USA Sep.2015 - Present
Ph.D. student, College of Information and Computer Sciences
GPA: 3.925/4.0
Advisor: Professor Erik Learned-Miller, also work closely with Professor Subhransu Maji

Xi'an Jiaotong University, Xi'an, China Sep.2009 - Jun.2012
Master of Pattern Recognition and Intelligent Systems
Advisor: Professor Nanning Zheng
Thesis: *Learning to Segment Salient Objects* (in Chinese)
Outstanding Master Thesis Award

Xi'an Jiaotong University, Xi'an, China Sep.2005 - Jun.2009
Bachelor of Electrical Engineering

EXPERIENCE

Graduate Research Assistant, Sep.2015 - Present
Computer Vision Lab, UMass Amherst, Amherst, US
Work with Professor Erik Learned-Miller on (deep) learning physics (eg, occlusions) from unlabeled videos. Also with Professor Subhransu Maji on attributes mining from joint text and images annotations

Research Assistant, Jun.2013 - May.2015
Institute of AI and Robotics, Xi'an Jiaotong University, Xi'an, China
Work with Professor Yihong Gong on multi-target tracking

Research Engineer, Jul.2012 - May.2013
Zienon Technology LLC, Xi'an, China
Developed real-time fist tracking algorithm for natural human computer interaction

Research Intern, Sep.2010 - Feb.2011
Media Computing Group, Microsoft Research Asia (MSRA), Beijing, China
Worked with Dr. Jingdong Wang on image segmentation and salient object detection

Graduate Research Assistant, Sep.2009 - Jun.2012
Institute of AI and Robotics, Xi'an Jiaotong University, Xi'an, China
Worked with Prof. Nanning Zheng and Prof. Zejian Yuan on salient object detection.

TECHNICAL REPORTS

- **Huaizu Jiang**, Erik Learned-Miller. Face Detection with the Faster R-CNN. arXiv, 2016.
- **Huaizu Jiang**. Weakly Supervised Learning for Salient Object Detection. arXiv, 2015.

- Jingdong Wang, **Huaizu Jiang**, Zejian Yuan, Ming-Ming Cheng, Nanning Zheng. Salient Object Detection: A Discriminative Regional Integration Approach. Submitted to **IJCV**, minor revision.
- Ali Borji, Ming-Ming Cheng, **Huaizu Jiang**, Jia Li. Salient Object Detection: A Survey. Submitted to IEEE Trans. on Pattern Analysis and Machine Intelligence (**TPAMI**), 2014. (**A comprehensive survey of salient object detection and object proposal generation models.**)

PUBLICATIONS

- Ali Borji, Ming-Ming Cheng, **Huaizu Jiang**, Jia Li. Salient Object Detection: A Benchmark. IEEE Trans. on Image Processing (**TIP**), 2015.
- **Huaizu Jiang**, Jinjun Wang, Yihong Gong, Na Rong, Zhenhua Chai, Nanning Zheng. Online Multi-Target Tracking with Unified Handling of Complex Scenarios. IEEE Trans. on Image Processing (**TIP**), 2015.
- Jingdong Wang, **Huaizu Jiang**, Yangqing Jia, Xian-Sheng Hua, Changshui Zhang, Long Quan. Regularized Tree Partitioning for Unsupervised Image Segmentation. IEEE Trans. on Image Processing (**TIP**), 2014.
- **Huaizu Jiang**, Jingdong Wang, Zejian Yuan, Yang Wu, Nanning Zheng. Salient Object Detection: A Discriminative Regional Feature Integration Approach. IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**), 2013.
- **Huaizu Jiang**, Yang Wu, Zejian Yuan. Probabilistic Salient Object Contour Detection Based on Superpixels. International Conference on Image Processing (**ICIP**), 2013.
- **Huaizu Jiang**, Jingdong Wang, Zejian Yuan, Tie Liu, Nanning Zheng, Shipeng Li. Automatic Salient Object Segmentation Based on Context and Shape Prior. British Machine Vision Conference (**BMVC**), 2011. (**Recognized as one of top four algorithms in a survey of ECCV 2012**)
- Yang Wu, Nanning Zheng, Zejian Yuan, **Huaizu Jiang**, Tie Liu. Detection of Salient Objects with Focused Attention Based on Spatial and Temporal Coherence. Chinese Science Bulletin. Vol 56(10), pages:1055-1062, 2011.

AWARDS AND SCHOLARSHIP

- **Championship** of Multi-Target Tracking Challenge & **Excellent Supervisor** National Graduate Student Contest on Video Content Analytics Aug.2014
- **Outstanding Master Thesis**, Xi'an Jiaotong University Jun. 2012
- Excellent Graduate Student, Xi'an Jiaotong University Sep.2010, Sep.2011
- **First place** (out of around 100 candidates) of Graduate Entrance Exam, XJTU Jan.2009
- Excellent Undergraduate Student, Xi'an Jiaotong University Sep.2008
- Siyuan Scholarship, Xi'an Jiaotong University Sep.2007, Sep.2008

PROGRAMMING SKILLS

C++, Python, MATLAB, and L^AT_EX.

Deep learning frameworks

I am using Caffe for vision tasks and Tensorflow for joint language and vision tasks. I also used Torch for a NLP course project.

Courses at UMass Amherst

Deep Learning, Introduction to Natural Language Processing, Distributed Operating System, Probabilistic Graphical Models, Computer Vision, Advanced Algorithms.