

JIANG WANG

PERSONAL INFORMATION

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EDUCATION

2010-Now **Northwestern University**
Ph.D. of Electrical Engineering GPA: **3.97/4.0** · School: Electrical Engineering and Computer Science
Thesis: *Video-based Human Action Recognition*
Working on image and video understanding, particularly video-based action recognition.
Advisor: Prof. Ying Wu · yingwu@eecs.northwestern.edu

2007-2010 **Fudan University**
Master of Electronic Engineering GPA: **3.79/4.0** · School: Electronic Engineering
Thesis: *A Global Optimal Approach to the Design of Complex Wavelet and its Applications*
Description: Study the optimization algorithms to design complex Wavelet, and its applications
Advisor: Prof. Jianqiu Zhang · jqzhang@ieee.org

2003-2007 **Fudan University**
Bachelor of Electronic Engineering GPA: **3.54/4.0** · School: Electronic Engineering
Thesis: *Efficient Design of Low Density Parity Code*
Description: Study the design of low density parity code that allows fast inference.

PUBLICATIONS

Book
Springer **Jiang Wang**, Zicheng Liu, Ying Wu, "Human Action Recognition with Depth Camera", SpringerBriefs Series published by Springer

Journals
PAMI **Jiang Wang**, Zicheng Liu, Ying Wu, Junsong Yuan, "Learning Actionlet Ensemble for 3D Human Action Recognition", IEEE Trans. on Pattern Recognition and Machine Intelligence, Vol. 36 Issue 5, May 2014

IEEE TSP **Jiang Wang**, Jianqiu Zhang, "A Globally Optimal Bilinear Programming Approach to the Design of Approximate Hilbert Pairs of Orthonormal Wavelet Bases", IEEE Trans. on Signal Processing, Jan. 2010

Information Technology Journal Jianjun Yin, Ming Guo, **Jiang Wang**, Jianqiu Zhang "Wavelet-domain Hidden Markov Tree Model Approach to Fusion of Multispectral and Panchromatic Images" Information Technology Journal, Issue 11, 2011

Conferences
NIPS DL 2014 Junhua Mao, Wei Xu, Yi Yang, **Jiang Wang**, Alan L Yuille "Explain Images with Multimodal Recurrent Neural Networks", NIPS Deep Learning and Representation Learning Workshop 2014

CVPR 2014 **Jiang Wang**, Yang Song, Thomas Leung, Chuck Rosenberg, James Philbin, Bo Chen, Ying Wu "Learning Fine-grained Image Similarity with Deep Ranking", CVPR 2014, Columbus, Ohio

- CVPR 2014 **Jiang Wang**, Xiaohan Nie, Yin Xia, Ying Wu, Song-Chun Zhu “*Cross-view Action Modeling, Learning and Recognition*”, CVPR 2014, Columbus, Ohio
- WACV 2014 **Jiang Wang**, Xiaohan Nie, Yin Xia, Ying Wu “*Mining Discriminative 3D Poselet for Cross-view Action Recognition*”, WACV 2014, Steamboat Springs, Colorado
- ICCV 2013 **Jiang Wang**, Ying Wu “*Learning Maximum Margin Temporal Warping for Action Recognition*”, ICCV 2013, Sydney
- CIMK 2013 Yu Cheng, Zhengzhang Chen, Lu Liu, **Jiang Wang**, Ankit Agrawal, Alok Choudhary “*Feedback-Driven Multiclass Active Learning for Data Streams*”, CIMK 2013, San Francisco
- CIMK 2013
(Poster) Yu Cheng, Zhengzhang Chen, **Jiang Wang**, Ankit Agrawal, Alok Choudhary “*Bootstrapping Active Name Disambiguation with Crowdsourcing*”, CIMK 2013, San Francisco (Poster)
- ACML **Jiang Wang**, Junsong Yuan, Zhuoyuan Chen, Ying Wu, “*Spatial Locality-Aware Sparse Coding and Dictionary Learning*”, ACML 2012, Singapore
- ECCV 2012 **Jiang Wang**, Zicheng Liu, Jan Chorowski, Zhuoyuan Chen, Ying Wu “*Robust 3D Action Recognition with Random Occupancy Patterns*”, ECCV 2012, Florence
- CVPR 2012 **Jiang Wang**, Zicheng Liu, Ying Wu, Junsong Yuan “*Mining Actionlet Ensemble for Action Recognition with Depth Cameras*”, CVPR 2012, Rhode Island
- CVPR 2012 Zhouyuan Chen, **Jiang Wang**, Ying Wu “*Decomposing and Regularizing Sparse/Non-sparse Components for Motion Field Estimation*”, CVPR 2012, Rhode Island
- CVPR 2011 **Jiang Wang**, Zhuoyuan Chen, Ying Wu “*Action Recognition with Multiscale Spatio- Temporal Contexts*”, CVPR 2011, Colorado Spring
- ICIMSP 2009 **Jiang Wang**, Jianqiu Zhang “*An Iterative Refinement DSA Image Registration Algorithm Using Structural Image Quality Measure*”, International Conference on Intelligent Information Hiding and Multimedia Signal Processing, 2009 Kyoto, Japan

PATENT

Action Recognition Based on Depth Maps, US patent pending

DSA image registration with structural image quality index as similarity measure (in China)

EXPERIENCE

- Since 2014 Summer* Researcher, BAIDU INSTITUTE OF DEEP LEARNING
- Baidu* Work in image technology group in Sunnyvale, USA.
- Deep learning research and its application on image retrieval and augmented reality.
- Reference: Chang Huang · huangchuang@baidu.com
- 2013 Summer* Software Engineer Intern, GOOGLE
- Google* Work in Image Search group in Mountain View.
- Study deep learning method for image retrieval.
 - Develop mapreduce algorithms for training data collection.
 - Propose a novel multi-scale deep convolutional network structure.
 - Propose efficient triplet sampling algorithm learning method.
 - The performance is much better than current production systems, and it is being deployed to production.
 - Published a paper in CVPR 2014.

Reference: Yang Song · yangsong@google.com

UCLA 2012 Fall Visiting Student, UCLA
Work in VCLA lab in UCLA.

- Action Recognition method with stochastic grammar.
- Work in DARPA project: SEE on a Unified Foundation for Representation, Inference and Learning
- The work is an important component of a logical reasoning-based question answering surveillance system.
- Published a paper in CVPR 2014.
- Published a paper in WACV 2014.

Reference: Song-Chun Zhu · sczhu@stat.ucla.edu

Google 2012 Summer Software Engineer Intern, GOOGLE RESEARCH
Work in Google Research in Mountain View.

- Deep learning method for video understanding.
- Help with large-scale object detection project.

Reference: Jon Shlens · shlens@google.com

Microsoft Research 2011 Summer Research Intern, MICROSOFT RESEARCH
Work in Microsoft Research, Redmond lab.

- Design machine learning algorithm for action recognition with Kinect camera.
- Help with large-scale object detection.
- Design novel feature representation for depth map data.
- Publish one CVPR 2012 paper
- Publish one ECCV 2012 paper.
- Publish a Book in Springer.
- Our CVPR 2012 paper gets 122 citations in less than two years.

Reference: Zicheng Liu · zliu@microsoft.com

Baidu 2009 Summer R&D Intern, BAIDU
Work in Baidu Shanghai R&D center.

- Designed and implemented a name entity classification and segmentation system.
 - Employed Wikipedia and search engine for feature enrichment.
 - Used Nave Bayes for classification.
 - Exploited classification confidence to find the center of long phrases.
- Implemented content-based image categorization algorithms
 - Face detection.
 - SVM classification with SIFT, color histogram, edge histogram and Texton as features.

Microsoft Research 2008 Summer Research Intern, MICROSOFT RESEARCH
Work in Microsoft Research, Asia lab.

- Implemented CAPTCHA generation with texture synthesis.
- Implemented an interactive CAPTCHA system to defend against the attacks from cheap labors.

Reference: Bin Zhu · Binzhu@ieee.org

Accenture 2007 Summer Software Engineer Intern, ACCENTURE
Work in Shanghai stock exchange system.

- Design the framework of the monitor software.

- C/S architecture, Develop with VC++, implement asynchronous communication with C++.

AWARDS

Awards

- 2013 · Cabell Terminal Year Fellowship
- 2013 · CVPR Doctoral Consortium Travel Grant
- 2010 · Walter P. Murphy Fellowship
- 2010 · Marvel Scholarship
- 2003-2007 · First Class Academic Scholarship for Graduate Student
- 2002 · Third Prize of National Olympic of Informatics Finals
- 2002 · First Prize of National Olympic of Informatics

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