

Yanran (Joyce) Wang

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Education

- **Northwestern University** Evanston, IL, USA
Ph.D. Computer Science 09/2014 – 06/2018 (expected)
– Advisor: Prof. Aggelos K. Katsaggelos
- **Fudan University** Shanghai, China
M.S. Computer Science 09/2011 – 07/2014
– Co-Advisor: Prof. Yu-Gang Jiang & Prof. Rui Feng & Prof. Xiangyang Xue
– Outstanding Graduate Winner & National Scholarship (Top 1%)
- **Anhui University** Hefei, China
B.S. Computer Science 09/2008 – 07/2011
– Earn Four-year Bachelor's Degree in Three Years (**Commencement student speaker**)

Research Interests

- **Computer Vision** Image and Video Segmentation, Perceptual Models for Multimedia Processing
- **Biomedical Image Processing and Medical Applications**

Publications

- Yanran Wang, Xue Wang, Aggelos K. Katsaggelos, Todd B Parrish. **A Deep Symmetry ConvNet for Stroke Lesion Segmentation**. *International Conference on Image Processing (ICIP)*, Phoenix, Arizona, USA, Sept. 2016
- Yanran Wang, Xue Wang, Aggelos K. Katsaggelos, Todd B Parrish. **3D Convolutional Neural Network for Chronic Stroke Lesion Segmentation**. *Human Brain Mapping[J]*, 2016 [[Link](#)]
- Bao Wang, Xue Wang, Yanran Wang, Aggelos K. Katsaggelos, Todd B Parrish. **An Automated Segmentation Pipeline for Chronic Stroke Lesion with New Evaluation Metrics**. *Neuroimage[J]*, 2015 (submitted)
- Yanran Wang, Qi Dai, Rui Feng, Yu-Gang Jiang. **Beauty is Here: Evaluating Aesthetics in Videos Using Multimodal Features and Free Training Data**. *ACM Multimedia (ACM MM)*, Barcelona, Spain, Oct. 2013 [[Link](#)]
- Yu-Gang Jiang, Yanran Wang, Rui Feng, Xiangyang Xue, Yingbin Zheng, Hanfang Yang. **Understanding and Predicting Interestingness of Videos**. *The 27th AAAI Conference on Artificial Intelligence (AAAI)*, Bellevue, Washington, USA, Jul. 2013 [[Link](#)]

Research Experiences

- **Stroke Lesion Segmentation on 3D brain MRI image**
Research Project, Northwestern University 01/2015 – present
– Conducted a pilot study on applying deep learning for stroke lesion segmentation task.
– Designed **Deep Lesion ConvNet segmentation pipeline** by utilizing a 3D convolutional neural network and the property of brain symmetry.
– Achieved much higher (75%) Dice Similarity Coefficient (DSC) than the standard approach (65%) on one dataset collected from three research laboratories.
– Implemented Mean-shift algorithm for effective stroke lesion segmentation.
– Improved the state-of-the-art skull stripping method ROBEX by utilizing brain symmetry.
– Submitted two journal papers and one conference paper.
- **Baidu Inc.**
R&D Software Engineer Intern at Nova advertisement group 06/2014 – 09/2014

- Designed and implemented a Word Segmentation & Frequency Statistics system.
- Studied Click-Through Rate (CTR) Prediction for advertisements.
- Explored the performance of visual features including color histogram, histogram of gradient, SIFT feature on CTR prediction.

- **Exploring Aesthetics in Videos** [\[Link\]](#)

Research Project, Fudan University 02/2013 – 07/2013

- Conducted a pilot study on video aesthetics and proposed an approach to automatically evaluate the aesthetics of videos using multi-level video content descriptors, free training data and SVM Classifier.
- Paper Accepted by ACM Multimedia 2013.
- Achieved **top performance** on the ACM Multimedia Grand Challenge: NHK Where Is Beauty.

- **Predicting Interestingness of Videos** [\[Link\]](#)

Research Project, Fudan University 07/2012 – 01/2013

- Conducted a pioneering study on the understanding of human perception of video interestingness **for the first time**.
- Proposed a computational method to automatically identify most interesting videos.
- Constructed **two benchmark datasets** of 1620 videos covering 29 themes which will help stimulate future research on this area.
- Paper Accepted by AAAI 2013. Gave **Oral presentation** at AAAI Conference, Bellevue, WA, USA.

Skills

- Proficient: Matlab, C/C++, Linux Shell Scripting
- Experience: Python, PHP, JavaScript

Teaching Experiences

- EECS 349 Machine Learning (150 students) Northwestern University, Spring 2015
- CS Computer Graphics (50 students) Fudan University, Spring 2013

Academic Experiences

- **Participant**
Graduate Summer School: Computer Vision 2013
Institute for Pure & Applied Mathematic(IPAM), University of California Los Angeles(UCLA), USA.
- **Demonstration**
Northwestern University EECS Student Poster Fair (won **First Prize** 3/30) 2015
The 27th AAAI Conference, Bellevue, Washington, USA. 2013

Personal Interests

- Piano, Photography, Tennis, Cooking