

Yaojie Liu

Curriculum Vitae

3115 Engineering Building, South Shaw Lane

East Lansing, MI 48824

E-mail: liuyaoj1@msu.edu

Tel: 614-886-6885

Website: sites.google.com/site/yaojeliucv

EDUCATION

- Michigan State University** 05/2015-current
Ph.D. in Computer Science
- The Ohio State University** 08/2014–05/2016
M.S. in Computer Science
- University of Electronic Science and Technology of China** 09/2010–06/2014
B.E. in Communication Engineering
Thesis: Image Inpainting (Best Bachelor Thesis Award)

RESEARCH EXPERIENCE

- Object Detection and Recognition on ImageNet** 11/2015-1/2015
 - Aiming at detecting the generic objects in images on ImageNet (each class contains 100 images);
 - Aiming at recognizing the specific objects (e.g. cars, dogs) via PHog+SVM;
- Global-Local Fitting in CNNs for Face Analysis** 09/2015-05/2016
Research, Computational Biology and Cognitive Science Lab (CBCSL)
 - Proposed a GL-CNN for fast and accurate detection and recognition of facial landmark points and action units;
 - Advisor: Prof. Aleix Martinez and Dr. Fabian Benitez-Quiroz;
 - Submitted to ECCV 2016;
- Bayesian Modeling of Fertilizers Usage Problem in Africa** 01/2015–04/2015
 - Implemented Bayesian regression and MCMC sampling to modeling the problem;
 - Analyzed the results and proposed a prediction model;
- Facial Expression Recognition based on Convolutional Networks** 01/2015–05/2015
Independent Research
 - Designed a effective CNN structure and implemented it on Caffe;
 - Proposed improvements such as joint training;
 - Advisor: Dr. Jihun Hamm
- Multi-target Pedestrian Surveillance System** 01/2014–06/2014
Research Assistant, Multi-media Communication and Image Processing Lab
 - Contributed to pedestrian data collection and dataset establishment;
 - Implemented the pedestrian detection and tracking algorithms;

- Advisor: Prof. Chang Shu

Image Inpainting

12/2013-04/2014

Undergraduate Thesis, Multi-media Communication and Image Processing Lab

- Conducted an overview of the state-of-the-art image inpainting techniques;
- Proposed a strategy to evaluate the results of different inpainting algorithms;
- Published one related paper on an international conference indexed by EI;

Dynamic Gesture Localization and Recognition Algorithm

03/2013-12/2014

Funded project, Multi-media Communication and Image Processing Lab

- Proposed topological skeletonization to locate the hand gesture in the video stream;
- Published one related paper on a core journal in China;
- Advisor: Prof. Chang Shu

Reduction of Cross-interference of Weak GNSS Signals

10/2012-05/2013

Funded project, Institute of Electronic Science and Technology, UESTC

- Advisor: Dr. Chengjun Guo

Gesture Recognition System Based on Doppler Effect

03/2012-04/2013

Funded project, School of Communication and Information Engineering

- Proposed a novel approach using ultrasonic waves to recognize hand gesture;
- Stimulated the software in C and designed the hardware on Xilinx platform;
- Advisor: Dr. Linli Cui

PUBLICATION

Shu, Chang, and **Yaojie Liu**. "Inpainting: Survey and Experiments" *International Journal of Signal Processing, Image Processing and Pattern Recognition* (2016): 9-10. (in press)

Liu, Yaojie, and Chang Shu. "A comparison of image inpainting techniques." *Sixth International Conference on Graphic and Image Processing (ICGIP 2014)*. International Society for Optics and Photonics, 2015.

Liu, Yaojie, Chang Shu, and Zhizhong Fu. "Dynamic Gesture Localization and Recognition Algorithm Based on Skeletonization." *Electronic Science and Technology* 27.3 (2014): 7-11. (Written in Chinese)

HONORS AND AWARDS

Scholarship

- Engineering Distinguished Fellowship, MSU 2016-2017
- Best Bachelor Thesis Award (5 over 477), UESTC 04/2014
- First Rank, People's Scholarship for Excellent University Student, China 10/2013
- Second Rank, People's Scholarship for Excellent University Student, China 10/2012
- First Rank, People's Scholarship for Excellent University Student, China 10/2011

Funded Research Grants

- General Program, National Natural Science Foundation of China (**NSFC**), China *03/2013*
- Research Grant, Institute of Electronic Science and Technology, UESTC *10/2012*
- Undergraduate Innovation and Entrepreneurship Foundation, UESTC *03/2012*

TECHNICAL SKILLS

Languages: MATLAB, Java, C/C++, R, VC++, Lisp, Verilog
Development Tools: Caffe, MatConvNet, VLFeat, OpenCV, RStudio, Weka
Operating System: Mac OS X, Window, Linux