Yaojie Liu

CONTACT INFORMATION

Department of Computer Science and Engineering,
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RESEARCH INTERESTS

Computer Vision, Deep Learning, Face Analysis, Biometrics, Audio-Visual Modeling.

EDUCATION

Michigan State University, MI, USA

Ph.D. Student, May 2016 - February 2021 (Expected)
- Advisor: Dr. Xiaoming Liu
- GPA: 3.5/4

The Ohio State University, OH, USA

M.Sc. Student, September 2014 - April 2016
- Research Topic: "Global and Local Fitting of Facial Landmarks and Action Units (AUs)"
- Advisor: Dr. Aleix Martinez
- GPA: 3.88/4

University of Electronic Science and Technology of China, Chengdu, China

B.E. Student, September 2010 - April 2014
- Dissertation Topic: "Image Inpainting"
- Advisor: Dr. Chang Shu
- GPA: 3.92/4

PUBLICATIONS

I have >200 citations according to **Google Scholar**, and my h-index is 5.

Conference Papers:

1. J. Stehouwer, A. Jourabloo, **Y. Liu**, X. Liu, "Noise Modeling, Synthesis and Classification for Generic Object Anti-Spoofing," Submitted to conference, 2020.

2. **Y. Liu**, J. Stehouwer, A. Jourabloo, X. Liu, "Deep Tree Learning for Zero-shot Face Anti-spoofing," IEEE Computer Vision and Pattern Recognition (**CVPR**′19), 2019. (**Oral, Best Paper Finalist**, **0.9% Acceptance Rate.**) **[PDF]** **[Database]** **[Source Code]**

3. **Y. Liu***, A. Jourabloo*, X. Liu, "Face De-Spoofing: Anti-Spoofing via Noise Modeling," Proc. European Conference of Commputer Vision (**ECCV**′18), 2018. (* denotes equal contribution) **[PDF]** **[Source Code]**

4. **Y. Liu***, A. Jourabloo*, X. Liu, "Learning Deep Models for Face Anti-Spoofing: Binary or Auxiliary Supervision," IEEE Computer Vision and Pattern Recognition (**CVPR**′18), 2018. (* denotes equal contribution, **Database has been distributed to >300 research groups**) **[PDF]** **[Database]**

5. **Y. Liu**, A. Jourabloo, W. Ren, X. Liu, "Dense Face Alignment," International Conference on Computer Vision (**ICCVW**′17) Workshop on Analysis and Modeling of Faces and Gestures

(AMFG), 2017. [**PDF**] [**Source Code**]

6. **Y. Liu***, Y. Atoum*, A. Jourabloo*, X. Liu, "Face Anti-Spoofing Using Patch and Depth-Based CNNs," International Joint Conference on Biometrics (**IJCB**′17), 2017. (* denotes equal contribution) [**PDF**]

7. R. Zhao, Y. Wang, C.F. Benitez-Quiroz, **Y. Liu**, A.M. Martinez, "Fast and Precise Face Alignment and 3D Shape Reconstruction from a Single 2D Image." European Conference on Computer Vision Workshop (**ECCVW**′16), 2016. [**PDF**]

8. **Y. Liu**, C. Shu, "A Comparison of Image Inpainting Techniques." International Conference on Graphic and Image Processing (ICGIP), 2015. [**Link**]

Journal Papers:
9. C. Shu, **Y. Liu**, "Inpainting: Survey and Experiments" International Journal of Signal Processing, Image Processing and Pattern Recognition, Vol. 9, Issue. 10, pp. 21-36, October 2016. [**Link**]

10. **Y. Liu**, C. Shu, "Dynamic Gesture Localization and Recognition Algorithm Based on Skeletonization" Electronic Science and Technology, Vol. 3, pp. 005, 2014. [**Link**]

Book Chapters:
11. **Y. Liu**, J. Stehouwer, A. Jourabloo, X. Liu, "Presentation Attack Detection for Face in Mobile Phones" Selfie Biometrics, Ajita Rattani, Reza Derakhahani, and Arun Ross, Eds, Springer-Verlag, 2019.

DEMOS	"Real-time Face Anti-spoofing System" at CVPR′18. [**Link**]	**June 2018**

WORKING EXPERIENCES	**AI Research Intern** Research topic: Audio-visual Modeling Apple Inc., Cupertino, CA	**May 2019 - August 2019**
	Research Assistant Michigan State University, East Lansing, MI	**May 2016 - Now**

PROFESSIONAL SERVICES

Co-Organizer and Lecturer:
Tutorial on "Face Anti-Spoofing: Past, Present and Future" at BTAS′19

Journal Reviewer:
TIP, TIFS, CVIU, Neurocomputing, TOMM, JCST, JEI, Image and Vision Computing, IET Computer Vision

Conference Reviewer:
CVPR′19-20, ICCV′19, ECCV′20, AAAI′20, BTAS′18, ICB′19, PRCV′19

PATENTS

Y. Liu, A. Jourabloo, X. Liu, "Improved Spoof Detection for Facial Recognition," U.S. Serial No. 62/626,486, filed on Feb 05, 2018.

Talks		
	"Dense Face Alignment," Midwest vision workshop, Chicago IL.	**Apr. 2017**
	"Deep Tree Net for Face Anti-spoofing," MSU/ND vision workshop, Notre Dame IN.	**Sep. 2019**
	"Face Anti-Spoofing: Detect, Visualize and Generalize," Sichuan University, China.	**Jan. 2020**
	"Face Anti-Spoofing: Detect, Visualize and Generalize," UESTC, China.	**Jan. 2020**

Honors and Awards		
	Finalist of the CVPR 2019 Best Paper Award,	2019
	Honorable Mention, Engineering Graduate Research Symposium, MSU	2018
	Awarded College of Engineering Distinguished Fellowship, MSU	2016
	Best Bachelor Thesis Award, UESTC	2014
	First Rank, People′s Scholarship for Excellent University Student, China	2013
	Second Rank, People′s Scholarship for Excellent University Student, China	2012
	Granted research fund from Institute of Electronic Science and Technology, UESTC	
	Granted research fund from Undergraduate Innovation Foundation, UESTC	
	First Rank, People´s Scholarship for Excellent University Student, China	2011

Skills

- Programming Language: Python, C/C++, Java, Git, Bash, HTML, SQL, R, LaTeX, Lisp
- Operating Systems: Linux, MacOS, Windows
- Signal Processing: Matlab
- Computer Vision Library: OpenCV
- Deep Learning: Tensorflow (1.x, 2.0), PyTorch, MatConvNet, Caffe.