

# Yaojie Liu

(614)-886-6885 ◇ [yjliu0414@gmail.com](mailto:yjliu0414@gmail.com) ◇ <https://yaojieliu.github.io>

## EXPERIENCE

- 
- |   |                   |
|---|-------------------|
| <b>Research Scientist</b> , Google Research   | 06/2021 - present |
| <b>Research Intern</b> , HMI, Robert Bosch LLC  | 06/2020 - 08/2020 |
| <ul style="list-style-type: none"><li>• Mentors: Xinyu Huang, Liu Ren</li><li>• Project: Face Shadow Removal/Relighting</li></ul>       |                   |
| <b>Research Intern</b> , AI Research, Apple   | 05/2019 - 08/2019 |
| <ul style="list-style-type: none"><li>• Mentors: Barry Theobald, Nicholas Apostoloff</li><li>• Project: Audio-Visual Modeling</li></ul> |                   |

## EDUCATION

- 
- |   |                   |
|---|-------------------|
| <b>Ph.D., Computer Science</b> , Michigan State University, USA   | 05/2016 - 05/2021 |
| <ul style="list-style-type: none"><li>• Advisor: Xiaoming Liu</li><li>• Committee: Xiaoming Liu (chair), Anil Jain, Arun Ross, Daniel Morris</li><li>• Dissertation: Face Anti-Spoofing: Detection, Generalization, and Visualization</li></ul> |                   |
| <b>M.S., Computer Science</b> , Ohio State University, USA  | 08/2014 - 05/2016 |
| <ul style="list-style-type: none"><li>• Advisor: Aleix Martinez</li><li>• Project: Global and Local Fitting of Facial Landmarks and Action Units</li></ul>  |                   |
| <b>B.E., Communication Engineering</b> , UESTC, China   | 08/2010 - 05/2014 |
| <ul style="list-style-type: none"><li>• Advisor: Chang Shu</li><li>• Thesis: Image Inpainting</li></ul>   |                   |

## PUBLICATIONS

---

I have >1200 citations according to [Google Scholar](#), and my **h-index** is 9. (\* denotes equal contribution)

### Conference Papers:

1. Hsin-Ping Huang, Deqing Sun, **Yaojie Liu**, Wen-Sheng Chu, Taihong Xiao, Jinwei Yuan, Hartwig Adam, Ming-Hsuan Yang, “Adaptive Transformers for Robust Few-shot Cross-domain Face Anti-spoofing,” arXiv, 2022. [\[PDF\]](#)
2. **Yaojie Liu**, Jeol Stehouwer, Xiaoming Liu, “On Disentangling Spoof Traces for Generic Face Anti-Spoofing,” *Proc. European Conference of Computer Vision (ECCV)*, 2020. (26% Acceptance Rate) [\[PDF, Code, Short Video, Long Video\]](#)
3. Jeol Stehouwer, Amin Jourabloo, **Yaojie Liu**, Xiaoming Liu, “Noise Modeling, Synthesis and Classification for Generic Object Anti-Spoofing,” *IEEE Computer Vision and Pattern Recognition (CVPR)*, 2020. (25% Acceptance Rate) [\[PDF, Code, Data, Short Video\]](#)
4. **Yaojie Liu**, Jeol Stehouwer, Amin Jourabloo, Xiaoming Liu, “Deep Tree Learning for Zero-shot Face Anti-spoofing,” *IEEE Computer Vision and Pattern Recognition (CVPR)*, 2019. (**Oral, Best Paper Finalist, 5.6% Acceptance Rate.**) [\[PDF, Code, Data, Video, Poster\]](#)
5. **Yaojie Liu\***, Amin Jourabloo\*, Xiaoming Liu, “Face De-Spoofing: Anti-Spoofing via Noise Modeling,” *Proc. European Conference of Computer Vision (ECCV)*, 2018. (31.8% Acceptance Rate) [\[PDF, Code, Poster\]](#)
6. **Yaojie Liu\***, Amin Jourabloo\*, Xiaoming Liu, “Learning Deep Models for Face Anti-Spoofing: Binary or Auxiliary Supervision,” *IEEE Computer Vision and Pattern Recognition (CVPR)*, 2018. (30% Acceptance Rate) [\[PDF, Data, Poster\]](#)
7. **Yaojie Liu**, Amin Jourabloo, William Ren, Xiaoming Liu, “Dense Face Alignment,” *International Conference on Computer Vision (ICCVW) Workshop on Analysis and Modeling of Faces and Gestures (AMFG)*, 2017. [\[PDF, Code, Poster\]](#)
8. **Yaojie Liu\***, Yousef Atoum\*, Amin Jourabloo\*, Xiaoming Liu, “Face Anti-Spoofing Using Patch and Depth-Based CNNs,” *IEEE International Joint Conference on Biometrics (IJCB)*, 2017. [\[PDF, Poster\]](#)

9. Ruiqi Zhao, Yan Wang, C.F. Benitez-Quiroz, **Yaojie 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)*, 2016. [\[PDF\]](#)
10. **Yaojie Liu**, Chang Shu, “A Comparison of Image Inpainting Techniques.” *International Conference on Graphic and Image Processing (ICGIP)*, 2015. [\[Link\]](#)

#### Journal Papers:

11. Xiaohong Liu, **Yaojie Liu**, Jun Chen, Xiaoming Liu, “PSCC-Net: Progressive Spatio-Channel Correlation Network for Image Manipulation Detection and Localization,” under review in IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2022. [\[PDF\]](#)
12. **Yaojie Liu**, Xiaoming Liu, “Spoof Trace Disentanglement for Generic Face Anti-Spoofing” in IEEE Transaction on Pattern Analysis and Machine Intelligence (PAMI), doi:10.1109/TPAMI.2022.3176387, 2022. [\[PDF\]](#)
13. Chang Shu, **Yaojie Liu**, “Inpainting: Survey and Experiments” International Journal of Signal Processing, Image Processing and Pattern Recognition, Vol. 9, Issue. 10, pp. 21-36, 2016. [\[Link\]](#)
14. **Yaojie Liu**, Chang Shu, Zhizhong Fu “Dynamic Gesture Localization and Recognition Algorithm Based on Skeletonization” Electronic Science and Technology, Vol. 3, pp. 005, 2014. (in Chinese) [\[Link\]](#)

#### Book Chapters:

15. **Yaojie Liu**, Jeol Stehouwer, Amin Jourabloo, Xiaoming Liu, “Presentation Attack Detection for Face in Mobile Phones” Selfie Biometrics, Ajita Rattani, Reza Derakhahani, and Arun Ross, Springer, 2019. [\[PDF\]](#)

#### PATENT

- **Yaojie Liu**, Amin Jourabloo, Xiaoming Liu, “Improved Spoof Detection for Facial Recognition,” U.S. Serial No. 62/626,486, filed on Feb 05, 2018.

#### HONORS & AWARDS

- |  |           |
|--|-----------|
| • Fitch Beach Award nominee (one winner in entire CSE department), MSU     | 2021      |
| • Outstanding Graduate Student Award, CSE Department at MSU                | 2021      |
| • ECCV 2020 Outstanding Reviewer Award (215 selected from 2,830 reviewers) | 2020      |
| • College of Engineering Dissertation Completion Fellowship, MSU           | 2020      |
| • CVPR 2019 Best Paper Finalist (45 selected from 1,294 accepted papers)   | 2019      |
| • Honorable Mention, Engineering Graduate Research Symposium, MSU          | 2018      |
| • College of Engineering Distinguished Fellowship, MSU                     | 2016      |
| • Best Bachelor Thesis Award, UESTC  | 2014      |
| • People’s Scholarship for Excellent University Student, UESTC             | 2011-2013 |

#### PROFESSIONAL SERVICES

- **Co-Organizer/Lecturer:**
  - IJCB 2020 Tutorial, “Recent Advances on Detecting Face Spoofing and Face Manipulation”, half-day. [\[1, 2, 3\]](#)
  - BTAS 2019 Tutorial, “Face Anti-Spoofing: Past, Present and Future”, half-day. [\[1, 2, 3\]](#)
  - CVPR 2018 Demo, “Real-time Face Anti-spoofing System”, full-day. [\[Link\]](#)
- **Conference Reviewer:** CVPR ’19-22, ICCV ’19-21, ECCV ’20-22, NeurIPS ’20-22, AAAI ’20-22, ICML ’21, WACV ’21, ACCV ’20, BTAS ’18, ICB ’19, ICME ’20-21, PRCV ’19-20
- **Journal Reviewer:** TPAMI, IJCV, TIP, TIFS, CVIU, Neurocomputing, JEI, Image and Vision Computing, TBIOM, TOMM, IET Computer Vision, IEEE Access, JCST
- **Mentoring:**
  - Yiyu Sun (Google, Summer 2022 - )
  - Xiao Guo (MSU, Summer 2021 - Fall 2021)
  - Xiaohong Liu (MSU, Summer 2020 - Fall 2020)
  - Xiaohan Zhang (MSU, Fall 2016 - Spring 2017)
  - William Ren (MSU, Summer 2016, Summer 2017)

## INVITED TALKS

---

- “Face Anti-Spoofing: Detect, Visualize, and Generalize”, Sichuan University. *1/2020*
- “Face Anti-Spoofing: Detect, Visualize, and Generalize”, UESTC. *1/2020*
- “Deep Tree Learning for Zero-shot Face Anti-spoofing”, MSU/ND Vision Workshop. *9/2019*
- “Deep Tree Learning for Zero-shot Face Anti-spoofing”, Oral Presentation, CVPR. *6/2019*
- “Dense Face Alignment”, Midwest Vision Workshop. *4/2017*

## TECHNICAL SKILLS

---

**Languages:** Python, C/C++, Java, Matlab, HTML, R, Bash

**Tools:** Tensorflow, PyTorch, Caffe, MatConvNet, Git, OpenCV, L<sup>A</sup>T<sub>E</sub>X

**Systems:** Linux, MacOS, Windows