

Hui Ding

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RESEARCH INTERESTS

My general research interest is computer vision and machine learning. Specifically on the topics of facial expression recognition, face attribute detection and generative models for facial expression synthesis and editing.

EDUCATION BACKGROUND

University of Maryland, College Park, MD Fall 2014-May 2020

Ph.D., Department of Electrical and Computer Engineering

- Affiliation: University of Maryland Institute for Advanced Computer Studies
- Advisor: Rama Chellappa
- Thesis: *Facial Expression Recognition and Editing with Limited Data*
- GPA: 3.89/4.0

Shanghai Jiao Tong University, Shanghai, China Fall 2010-March 2013

M.S., Department of Electronic Engineering

- Advisor: Chen He
- Thesis: *Research on Relay and Coordinated Multi-point Processing Technologies for Intercell Interference Suppression in 4G Wireless System*
- GPA: 2.96/3.3

Dalian University of Technology, Dalian, China Fall 2006-June 2010

B.S., Department of Biomedical Engineering

- Advisor: Tianshuang Qiu
- Thesis: *Pattern Recognition of Arterial Waveform using Artificial Neural Networks and Support Vector Machine*

WORK EXPERIENCE

Amazon Web Services (AWS), Seattle, Washington June 2020-present

Applied Scientist, Face Team

- Manager: Wei Xia
- Project: *Face Anti-spoofing and Document Forgery Detection*

Waymo, Mountain View, California June 2018-Aug. 2018

Software Engineer Intern, Perceptron Team

- Mentor: Qian Yu and Yu Zhang
- Project: *Object Detection from 3D Point Cloud*

Adobe Research, San Jose, California Feb. 2018-May. 2018

Research Intern, Deep Learning Group

- Mentor: Haoxiang Li, Xiaohui Shen and Jimei Yang
- Project: *Facial Motion Transfer with Disentangled Representation Learning*

Palo Alto Research Center, Palo Alto, California May. 2017-Aug. 2017

Research Intern, Machine Learning Group

- Mentor: Kumar Sricharan and Matthew A Shreve
- Project: *Generative Adversarial Network for Image Generation*

Siemens Healthineers, Princeton, New Jersey May. 2016-Aug. 2016

Research Intern, Image Analysis Group

- Mentor: Shaohua Kevin Zhou
- Project: *Deep Learning for Image Recognition with Small Dataset*

Spreadtrum Communications, Shanghai, China Dec. 2012-Jul. 2013

Software Development Engineer, TDD Protocol Stack Group

- Mentor: Xianliang Chen
- Project: *None-Access-Module development and Automatic Software Bug Detection*

Intel China Research Center, Shanghai, China Feb. 2012-June 2012

Research Intern, Mobile Wireless Group

- Mentor: Rongzhen, Yang
- Project: *Device-to-Device communication in LTE-A system*

PUBLICATIONS [1] Tianchen Zhao, Xiang Xu, Mingze Xu, **Hui Ding**, Yuanjun Xiong, Wei Xia, *Learning Self-Consistency for Deepfake Detection*, International Conference on Computer Vision (ICCV), 2021. (**oral**)

[2] **Hui Ding**, Peng Zhou and Rama Chellappa, *Occlusion-Adaptive Deep Network for Robust Facial Expression Recognition*, International Joint Conference on Biometrics (IJCB), 2020. (**oral**)

[3] **Hui Ding**, Kumar Sricharan and Rama Chellappa, *ExprGAN: Facial Expression Editing with Controllable Expression Intensity*, Association for the Advancement of Artificial Intelligence (AAAI), 2018. (**oral**)

[4] **Hui Ding**, Hao Zhou, Shaohua Kevin Zhou and Rama Chellappa, *A Deep Cascade Network for Unaligned Face Attribute Classification*, Association for the Advancement of Artificial Intelligence (AAAI), 2018.

[5] **Hui Ding**, Shaohua Kevin Zhou and Rama Chellappa, *FaceNet2ExpNet: Regularizing a Deep Face Recognition Net for Expression Recognition*, IEEE International Conference on Automatic Face Gesture Recognition (FG), 2017.

[6] **Hui Ding**, Chen He, and Lingge Jiang, *Performance of Multi-antenna Systems with Fixed Gain AF Relay in the Presence of Co-Channel Interference*, 2012 IEEE International Conference on Communications (ICC), pp. 5538-6642.

[7] **Hui Ding**, Chen He, and Lingge Jiang, *Performance Analysis of Fixed Gain MIMO Relay Systems in the Presence of Co-Channel Interference*, IEEE Commun. Lett., vol. 16, no. 7, pp. 1133-1136, Jul. 2012.

PATENTS

[1] Sricharan Kallur Palli Kumar, Raja Bala, Jin Sun, **Hui Ding**, Matthew A Shreve, *System and method for semi-supervised conditional generative modeling using adversarial networks*, United States Application No. 15826613.

[2] Shaohua Kevin Zhou, Mingqing Chen, **Hui Ding**, Bogdan Georgescu, Mehmet Akif Gulsun, Tae Soo Kim, Atilla Peter Kiraly, Xiaoguang Lu, Jin-hyeong Park, Puneet Sharma, Shanhui Sun, Daguang Xu, Zhoubing Xu, Yefeng Zheng, *Method and system for artificial intelligence based medical image segmentation*, United States Application No. 17102843.

[3] Rongzhen Yang, **Hui Ding**, Hujun Yin, *Intracell device-to-device communication*

control, United States No. 9572186.

**AWARDS
SCHOLARSHIPS**

- Dec. 2012: Graduate National Scholarship (*Top scholarship for graduate students in China*)
- Oct. 2012: First prize of Kwang-Hua Scholarship by Kwang-Hua Education Foundation
- Sep. 2011: Academic Excellence Scholarship (First-class) of Shanghai Jiao Tong University
- Jun. 2010: Outstanding Graduate of Dalian University of Technology
- Sep. 2007 - 2009: Academic Excellence Scholarship (First-class) of Dalian University of Technology

**COMPUTER
SKILLS**

Language: Python, C++, Matlab
Tools: Tensorflow, Pytorch, Caffe

**PROFESSIONAL
SERVICE**

Reviewer of International Journal of Computer Vision, IEEE Transactions on Pattern Analysis and Machine Intelligence, IEEE Transactions on Image Processing, IEEE Transactions on Affective Computing, International Conference on Computer Vision

**TEACHING
EXPERIENCE**

ENEE 408G: Capstone Design Project (Multimedia Signal Processing)