Yuqian Zhou (Francis Zhou)

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RESEARCH INTEREST

My research interest is unsupervised and semi-supervised learning for data representation and understanding, and its applications in human-computer interaction and image processing. Specifically, I am interested in multi-domain or multi-model data representation using cutting-edge generative models like GAN or VAE, and correspondingly applying the models to face or action analysis and medical image processing etc. Besides, I am also conducting image de-noising projects recently.

EDUCATION

University of Illinois at Urbana-Champaign (UIUC),   *Aug. 2017 - Present*
Image Formation and Processing Group (IFP), Beckman Institute
Ph.D. candidate in Electrical and Computer Engineering
Cumulative GPA: 4.0/4.0

The Hong Kong University of Science and Technology (HKUST),   *Aug. 2015 - Aug. 2017*
Neuromorphic Interactive System Lab, ECE
Master of Philosophy (M.Phil.) in Electronics and Computer Engineering
Cumulative GPA: 4.04/4.3

The Hong Kong University of Science and Technology (HKUST),   *Aug. 2013 - Aug. 2015*
B.Eng. in Computer Engineering
Cumulative GPA: 4.086/4.3, Ranking: 1/130

Sun Yat Sen University (SYSU), Guangzhou, China   *Aug. 2011 - Aug. 2013*
UG Student in Computer Science
Cumulative GPA: 3.8/4.0, Ranking: 1/20

Peking University, China   *Jul. 2014 - Aug. 2014*
Globex Engineering School Summer Exchange Program
Courses: Nanomedicine

RESEARCH PROJECTS

Face++ USA (Megvii co.)   May. 2018 - Aug. 2018
Summer Internship, advised by Jue Wang   *Seattle, WA*

· Real Image Blind Denoising
· Deformable Style Transfer

Image Formation and Processing Group, UIUC   Aug. 2017 - Present
Research Assistant. Supervised by Prof. Thomas Huang   *Champaign, IL*

· Representation Learning and unsupervised learning, proposing a RepGAN for data generation and reconstruction
· Emotion Recognition and Generation through Multi-modal Data and fMRI Emotion Detection
· Low-resolution Face Detection and Recognition
· Multi-domain Knowledge Transfer in a Recursive Generative Adversarial Autoencoder

CloudWalk Research Lab (Remote), China   Jan. 2018 - Present
Research Assistant   *Chongqing, China*

- General Face Recognition and Low-resolution Face Detection
- Facial Expression Analysis API Development

Jump Trading Research Lab, UIUC   Aug. 2017 - Present

Research Assistant. Following Ken Terao   *Champaign, IL*

- Single-stock Generalized Price Prediction using Convolutional Neural Network
- Multi-stock Price Prediction using Recurrent Neural Network

Neruomorphic Interactive System Lab, HKUST   Aug. 2015 - Aug. 2017

Research Assistant. Supervised by Prof. Bertram Shi   *HKSAR, China*

- Facial Expression Classification through Deep Networks with Deep Feature Investigation and Selection
- Frontal Facial Action Unit Intensity Estimation using LSTM and CNN model
- Pose-dependent Facial Action Unit Intensity Estimation by Pose-invariant Feature Learning
- Photo-realistic Facial Expression Generation through Conditional Difference Adversarial Autoencoder
- Smiling Intensity Estimation Online Platform
- Facial Expression Classification Online Platform
- Face Enactment and Expression Transfer with Morphing
- Embedding Smiling Controlled Interface to Game 'Flappy Bird'
- Gaze and Manual Controlled Telepresence and Virtual Reality Robot

TECHNICAL STRENGTHS

Computer Languages	C/C++, Python, MATLAB, C#, Java, JS, Object-C
Software & Tools	HTML, LaTeX, MS Office, Adobe PS & Premiere
Deep Learning Framework	Keras, Tensorflow, Theano, Caffe, PyTorch

RELEVANT COURSES

Core Courses	**Other Courses**
Machine Learning	Linear System Theory
Computer Vision	Introduction to Robotics
Pattern Recognition	Computer Network and Security
Representation Learning	Computer Architecture
Big Data Applications	Computer Software Engineering

PUBLICATIONS

He, T, Huang H., Li, Y., Zhou, Y., Wu, C, Wang, J, Soatto, S *"GeoNet: Deep Geodesic Networks for Point Cloud Analysis"* (CVPR2019, Oral).

Zhou, Y., Jiao, J., Huang, H, Wang, J, and Huang, Thomas *"Noise Disentangling and Multiple Strategies for Applying it to Realistic Noise"* (AAAI2019).

Fu, Y., Wei, Y., Zhou, Y.,...,and Huang, Thomas *"Horizontal Pyramid Matching for Person Re-identification"* (AAAI2019)

Zhou, Y., Gu, K., and Huang, Thomas *"Unsupervised Representation Adversarial Learning Network: from Reconstruction to Generation"* Technical Report.

Zhou, Y., Liu, D., and Huang, Thomas *"Survey of Face Detection on Low-quality Images. "* 13th IEEE International Conference on Automatic Face & Gesture Recognition (FG 2018), Xi'an, China, 2018.

Zhou, Y. and Shi, B.E. *"Photorealistic Facial Expression Synthesis by the Conditional Difference Adversarial Autoencoder"*, Accepted by The seventh International Conference on Affective Computing and Intelligent Interaction (ACII2017), San Antonio Texas, 2017.

Zhou, Y., Pi, J, and Shi, B.E. "*Pose-independent Facial Action Unit Intensity Regression Based on Multi-task Deep Transfer Learning.*" 12th IEEE International Conference on Automatic Face & Gesture Recognition (FG 2017), Washington DC, 2017. (Winner of the FERA2017 Challenge, Oral)

Zhou, Y. and Shi, B.E. "*Action Unit Selective Feature Maps in Deep Networks for Facial Expression Recognition.*" International Joint Conference onNeural Networks (IJCNN2017), Anchorage Alaska, 2017.(Oral)

Zhou, Y and Lu, S. "*Discovering Abnormal Patches and Transformations of Diabetics Retinopathy in Big Fundus Collections.*" Computer Science & Information Technology (CSIT2017), Zurich Switzerland, 2017.(Oral)

HONORS & AWARDS

Nov. 2017	3rd Price of the 15th 'Challenge Cup' of China
Jun. 2017	Winner of 2017 Facial Expression Recognition Challenge (FERA2017)
Mar. 2015	Best Oral Paper of ICBDA2017
Dec. 2015	Finalist of Three-Minute-Thesis(3MT) Challenge of HKUST
Nov. 2015	2015 Academic Achievement Medal of HKUST (top 0.1%)
May. 2015	2015 HKUST Outstanding Student (top 1%)
May. 2015	2015 HKUST Academic Excellence Award (top 5%)
May. 2014, Sep. 2014, 2015	HKUST Dean's List (top 10%)
Mar. 2012	3rd Price at ACM Competition of SYSU

SCHOLARSHIPS

Aug. 2015 - Aug. 2017	PG Studentship of HKUST
Aug. 2014	First-class Scholarship Scheme for Continuing UG Students of HKUST
Aug. 2014	HKTIIT Scholarship
Aug. 2013	First-class Scholarship of SYSU
Aug. 2013	Jerry Yan Scholarship

PROFESSIONAL ACTIVITIES

Organizing Committee	3rd ICBDA
Reviewer	Transactions of Affective Computing
Reviewer	2017 ICCV workshop on Analysis and Modeling of Faces and Gestures
Reviewer	2018 CVPR
Reviewer	Journal of Visual Communication and Image Representation
Organizing Committee	2018 IJCAI Affective Computing Workshop
Interviewer	HKUST Undergraduate Student Admission with DSE

TALK

Topic: Deep AU-Selective Feature Maps for Expression Recognition.
16-th Japan-China-Korea Joint Workshop on Neurobiology and Neuroinformatics (NBNI 2016)
Sponsor: HKUST ECE Department   Dec. 2016

Topic: Computer Architecture and Basic Principles
Tecent Technology Entering Middle School Students
Sponser: Tecent Co., SYSU and SYSU Affiliated Middle School   Feb. 2013

Topic: Introduction to Speech Recognition
Tecent Technology Entering Middle School Students

LEADERSHIP AND ACTIVITIES

Aug. 2012 - Aug. 2013	Chairman of the Maxcell Resourse Sharing Association at SYSU
May. 2011 - May. 2012	Group Leader of the Academic Department of SYSU Student Union
May. 2009 - May. 2010	Chairman of the Student Union of Harbin No.3 Senior High
Dec. 2010	Delegate of Estonia at WHO of Harvard Model United Nations Conference
Aug. 2010	Academic Advisor of the Heilongjiang Model United Nations Conference
Dec. 2009	China-Denmark Culture Exchange Program
Dec. 2007	Junior Journalist of China-US Culture Exchange Program

VOLUNTEER WORK

Jun. 2013 - Feb.2013	International Volunteer of Maldives Environment Protection and Education
Sep. 2015, Sep. 2016	Student Ambassador of New Semester Series Events
Jan. 2017	Volunteered at the Anniversary of China-HK Scholar Association
Sep. 2015 - Aug. 2017	Tutor in Hong Kong Tutor Association
Sep. 2013 - Aug. 2017	HKUST Exchange Student Partner
Aug. 2013	Blood Donation at Harbin, China