

Zhihe Lu

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EDUCATION

CVSSP, University of Surrey

Doctoral Degree in Computer Vision

Supervisors: Prof. Tao Xiang and Prof. Yi-Zhe Song

Expected Graduation: July 2022

Institute of Automation, Chinese Academy of Sciences

Master Degree in Computer Vision

Supervisor: Prof. Ran He

Graduation: June 2019

College of Electrical Engineering, Zhengzhou University

Bachelor of Engineering, Automation

Graduation: June 2014

RESEARCH INTERESTS

Computer Vision with Deep Learning, Few-shot Learning, Domain Adaptation, and Generative Model

PUBLICATIONS

Simpler is Better: Few-shot Semantic Segmentation with Classifier Weight Transformer

Zhihe Lu, Sen He, Xiatian Zhu, Li Zhang, Yi-Zhe Song, Tao Xiang

ICCV 2021

- **Brief Introduction:** We proposed a novel training pipeline for FSS that only meta-learns the simple classifier, and a classifier weight adaptation transformer to dynamically adapt the classifier to each query sample.

- **Code:** <https://github.com/zhiheLu/CWT-for-FSS>

Stochastic Classifiers for Unsupervised Domain Adaptation

Zhihe Lu, Yongxin Yang, Xiatian Zhu, Cong Liu, Yi-Zhe Song, Tao Xiang

CVPR 2020

- **Brief Introduction:** Instead of normally building a classifier, we build a distribution over classifier's weights so that infinite number of classifiers can be sampled without introducing extra parameters. With these classifiers, misaligned parts between source and target domains are better captured, and then minimized.

- **Code:** https://github.com/zhiheLu/STAR_Stochastic_Classifiers_for_UDA

Conditional Expression Synthesis with Face Parsing Transformation

Zhihe Lu, Tanhao Hu, Lingxiao Song, Zhaoxiang Zhang, Ran He

ACM MM 2018

- **Brief Introduction:** We proposed a Couple-Agent Face Parsing based Generative Adversarial Network (CAFP-GAN) that unites the knowledge of facial semantic regions and controllable expression signals. Given a neutral face, the unknown expression with different intensities can be synthesized by controllable labels.

Geometry Guided Adversarial Facial Expression Synthesis

Lingxiao Song, Zhihe Lu, Ran He, Zhenan Sun, Tieniu Tan

ACM MM 2018

- **Brief Introduction:** A Geometry-Guided Generative Adversarial Network (G2-GAN) was proposed for photo-realistic and identity-preserving facial expression synthesis, with facial geometry (fiducial points) as a controllable condition to guide facial texture synthesis with specific expression.

Recent Progress of Face Image Synthesis

Zhihe Lu, Zhihang Li, Jie Cao, Ran He, and Zhenan Sun

ACPR 2017

- **Brief Introduction:** This was a very early survey for face image synthesis, which not only reviewed existing works, but also provided some promising directions for future research.

ADDITIONAL

- Software Skills: Python, Pytorch, Linux, MATLAB and LaTeX
- Student Representative at CVSSP, the University of Surrey
- 2012 – 2013, National Scholarship, Zhengzhou University
- 2013 – 2014, Outstanding Graduate of Henan Province, Zhengzhou University