

Zhuoqian Yang

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EDUCATION

Carnegie Mellon University, Robotics Institute

Pittsburgh, PA

- M.S. in Computer Vision | Cumulative GPA: 4.04/4.3

Aug 2019 – Dec 2020

Beihang University, School of Software Engineering

Beijing

- B.E. in Software Engineering | GPA: 88.1/100, Overall Ranking: 6/149

Sep 2015 – Jun 2019

SELECTED PUBLICATIONS

- [1] Zhuoqian Yang*, Wentao Zhu*, Wayne Wu*, Chen Qian, Qiang Zhou, Bolei Zhou, Chen Change Loy, “TransMoMo: Invariance-Driven Unsupervised Video Motion Retargeting,” CVPR 2020. * denotes equal contribution.
- [2] Zhuoqian Yang, Yang Yang, Kun Yang, Ziquan Wei, “Non-rigid image registration with dynamic Gaussian component density and space curvature preservation,” IEEE Transactions on Image Processing, 28(5), 2584-2598.
- [3] Zhuoqian Yang, Zengchang Qin, Jing Yu, Yue Hu, “Scene Graph Reasoning with Prior Visual Relationship for Visual Question Answering,” ICIP 2020.

EXPERIENCE

Fujitsu Laboratories America, Research Intern

Remote, US

Semantic Facial Image Manipulation using 2D/3D Modalities, sponsored MSCV capstone project

Supervisor: Dr. Laszlo Jeni, Koichiro Niinuma

Ongoing since Feb 2020

- Building a facial expression manipulation model to generate photorealistic images based on FACS.
- Designed a two-stage pipeline to disentangle the expression manipulation process: (i) manipulate image geometry using 3D information of the face, (ii) inpaint textures of facial expression such as wrinkles.

SenseTime, Research Intern

Beijing, China

TransMoMo: Invariance-Driven Unsupervised Video Motion Retargeting, CVPR 2020

Supervisor: Wayne Wu

May 2019 - Nov 2019

- Designed an autoencoder framework to learn latent representations of human motion from unpaired videos.
- Achieved unsupervised representation disentanglement by exploiting invariance properties of three orthogonal factors of variation including motion, structure, and view-angle.

RESEARCH

Scene Graph Reasoning with Prior Visual Relationship for Visual Question Answering, ICIP 2020

Supervisor: Assoc. Prof. Zengchang Qin

Jul 2018 - Dec 2018

Intelligent Computing and Machine Learning Lab, Beihang University Beijing

- Designed a graph neural network approach to enable agents to reason visual relationships on scene graphs.
- Introduced prior knowledge of visual relationships via visual relationship metric learning. A deep semantic space constrained by visual context and language priors is learned for visual relationships.

Multi-Temporal Remote Sensing Image Registration Using Deep Convolutional Features, IEEE Access

Supervisor: Assoc. Prof. Yang Yang

Jan 2018 - Apr 2018

Engineering Research Center of GIS Technology in Western China, Yunnan Normal University Kunming

- Proposed a VGG-pyramid feature based multi-temporal remote sensing image registration method.
- Improved RMSE by 20% on remote sensing images with temporal appearance changes.

Non-rigid Image Registration with Dynamic Gaussian Component Density and Space Curvature Preservation, IEEE TIP, Supervisor: Assoc. Prof. Yang Yang

Mar 2017 - Dec 2017

Engineering Research Center of GIS Technology in Western China, Yunnan Normal University Kunming

- Designed a dynamic Gaussian component density to progressively exploit available image information and provide sufficient credible correspondences for image registration.
- Devised a space curvature preservation to improve the plausibility of estimated transformation.

COURSES

10-601 Machine Learning - A+, 16-720B Computer Vision - A, 15-462 Computer Graphics - A
16-811 Math Fundation for Robotics - A, 15-463 Computational Photography - Ongoing