

Zhuoqian Yang

Email: yzhq97@gmail.com • Phone: (412) 608-7561 • Homepage: yzhq97.github.io

EDUCATION	<p>Carnegie Mellon University, Robotics Institute Pittsburgh, PA</p> <ul style="list-style-type: none">▪ M.S. in Computer Vision Cumulative GPA: 4.03/4.3 Aug 2019 – Dec 2020▪ Courses: Machine Learning (A+), Computer Vision (A), Computer Graphics (A), Math for Robotics (A), Geometry-based Vision (A+), Computational Photography (A-), Learning-based Vision (A-) <p>Beihang University, School of Software Engineering Beijing</p> <ul style="list-style-type: none">▪ B.E. in Software Engineering GPA: 88.1/100, Overall Ranking: 6/149 Sep 2015 – Jun 2019
SELECTED PUBLICATIONS	<p>[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. * equal contribution.</p> <p>[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.</p> <p>[3] Zhuoqian Yang, Zengchang Qin, Jing Yu, Yue Hu, “Scene Graph Reasoning with Prior Visual Relationship for Visual Question Answering,” ICIP 2020.</p>
EXPERIENCE	<p>Sensetime, Full-time Researcher Shanghai</p> <p>Pose-Conditioned Full-Body Image Generation with Implicit Field GANs</p> <p>Supervisor: <i>Prof. Bo Dai</i> and <i>Dr. Wayne Wu</i> Mar 2021 - present</p> <ul style="list-style-type: none">▪ Developing a 3D-pose-conditioned implicit-field GAN that renders free-view full-body human images.▪ Designed a novel implicit function network architecture that effectively handles local conditioning in the 3D space. <p>Fujitsu Laboratories America, Research Intern Remote, US</p> <p>Semantic Facial Image Manipulation using 2D/3D Modalities, <i>sponsored MSCV capstone project</i></p> <p>Supervisor: <i>Dr. Laszlo Jeni</i>, <i>Koichiro Niinuma</i> May 2020 - Dec 2020</p> <ul style="list-style-type: none">▪ Built a facial expression manipulation model to generate photorealistic images conditioned on FACS.▪ Designed a two-stage pipeline: (i) manipulate image geometry using 3D information of the face, (ii) synthesize facial-expression-induced textures such as wrinkles.▪ Achieved 19% improvement in Expression Accuracy and 12% improvement in FID. <p>SenseTime, Research Intern Beijing</p> <p>TransMoMo: Invariance-Driven Unsupervised Video Motion Retargeting, <i>CVPR 2020</i></p> <p>Supervisor: <i>Dr. Wayne Wu</i> May 2019 - Nov 2019</p> <ul style="list-style-type: none">▪ 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.▪ Achieved motion retargeting MSE 20% smaller than the supervised SOTA with our unsupervised method.
RESEARCH	<p>Scene Graph Reasoning with Prior Visual Relationship for Visual Question Answering, <i>ICIP 2020</i></p> <p>Supervisor: <i>Assoc. Prof. Zengchang Qin</i> Jul 2018 - Dec 2018</p> <p>Intelligent Computing and Machine Learning Lab, Beihang University Beijing</p> <ul style="list-style-type: none">▪ Designed a graph neural network approach to enable agents to reason visual relationships on scene graphs.▪ Introduced prior knowledge of visual relationships via contrastive-learned embeddings constrained by visual context and language priors. <p>Non-rigid Image Registration with Dynamic Gaussian Component Density, <i>IEEE TIP</i></p> <p>Supervisor: <i>Assoc. Prof. Yang Yang</i> Mar 2017 - Dec 2017</p> <p>Engineering Research Center of GIS Technology in Western China, Yunnan Normal University Kunming</p> <ul style="list-style-type: none">▪ 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.
PROJECTS	<p>CNN Image Registration, 200+ stars on Github Mar 2018</p> <ul style="list-style-type: none">▪ Devised a VGG-pyramid feature based multi-temporal remote sensing image registration method.▪ Improved RMSE by 20% on remote sensing images with temporal appearance changes.

