XIAOCHEN ZHOU

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EDUCATION

Purdue University *West Lafayette, IN*
- PhD of Science in Computer Science *Aug 2020 – May 2024*

Washington University in St. Louis, GPA 4.0 *St. Louis, MO*
- Master of Science in Computer Science *Aug 2018 – May 2020*

Beihang University, GPA 3.65 *Beijing, China*
- Bachelor of Science in Computer Science and Engineering *Aug 2014 – May 2018*

PUBLICATION

- Cheng Zhang*, Xiaochen Zhou*, Cheng Xu, Kai Xu, "*Learning Discriminative 3D Shape Representations by View Discerning Networks*", accepted by TVCG.
- Cheng Xu, Cheng Zhang, Xiaochen Zhou, Biao Leng, "*Improved Panoramic Representation via Bidirectional Recurrent View Aggregation for 3D model Retrieval*", accepted by *IEEE Computer Graphics and Application*.
- Cheng Xu, Biao Leng, Cheng Zhang, Xiaochen Zhou, "*Emphasizing 3D Properties in Recurrent Multi--view Aggregation for 3D Shape Retrieval*", accepted by AAAI 2018.

WORKING EXPERIENCE

Image extrapolation through patch match and GANs *WashU VLG lab, MO*
Machine Learning Engineer *Jun 2019 – May 2020*
- Implemented publications and projects related to image inpainting and extrapolation with Tensorflow.
- Designed and implemented novel U-Net based GANs for image reconstruction through image layout.
- Designed image extension method based on patch matching algorithms and optimized pix2pix method.
- Built end-to-end pipeline for layout detection, image extension and image reconstruction with Python.

Machine Learning Engineer on Re-identification *Megvii Face ++ Co., Beijing, China*
Machine Learning Engineer *Dec 2017 – Jun 2018*
- Deployed the ResNet framework and designed two network structures for vehicle re-identification.
- Implemented and optimized human re-identification models on vehicle re-identification datasets.
- Designed metric learning methods to boost the performance of vehicle re-identification different gesture.
- Deployed labeling and visualizing platform using Python and OpenCV for video and image datasets.

ACADEMIC EXPERIENCE

Style Transform Network with Local Details Optimization *Washington University in St. Louis, MO*
Research assistant *Feb 2019 –May 2019*
- Deployed image affine transformation with camera intrinsic and extrinsic calibration in python and OpenCV.
- Built pipeline for image affine transformation, image style transformation and local detail optimization.
- Implemented style transform network and optimized the artifacts noises generated from local style transform with neural network in Keras framework.

Outdoor Architecture Reconstruction through Single View *Washington University in St. Louis, MO*
Research assistant *Nov 2018 – Feb 2019*
- Implemented algorithms for computing camera calibration parameters with RANSAC method.
- Designed methods for generating normal vector of plants in camera and world coordinate system.
- Reconstructed 3D point cloud model through one single-view image based on search algorithm.
- Deployed the pipeline for user labeling, reconstruction and visualization platform with python and OpenCV.

View-based 3D Model Recognition via Deep Learning Method *Beihang University, Beijing, China*
Research assistant *Sep 2016 – Feb 2018*
- Devised neural networks for 3D models recognition through multiple rendered 2D images, boosting 5% more than the State-of-the-Art. Projects accepted by journals and conferences.
- Designed two different evaluation units to judge the quality of rendered images and aggregated the unit with classification network, which achieved impressive improvement on different criteria.
- Used LSTM in ordered feature extraction and aggregated extracted information as features for 3D shapes.
- Implemented and modified hard-sampling methods in metric learning for recognition tasks.

Teaching

- Teaching assistant for CSE 559A Computer Vision in Washington University in St. Louis.
- Mentor for Challenge Cup National College Academic Science and Technology Competition.

Skill Set

- **Program Language:** Python, Matlab, C++, C, HTML, CSS
- **Skills**: Tensorflow, Pytorch, Caffe, Keras, OpenCV, Linux