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| **XIAOCHEN ZHOU**  2804 Horizon Dr, West Lafayette, IN, US | [zhou1178@purdue.edu](mailto:zhou1178@purdue.edu) | 314-326-7786 |

**EDUCATION**

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| **Purdue University**   * PhD of Science in Computer Science | *West Lafayette, IN*  *Aug 2020 –* *May 2024* |
| **Washington University in St. Louis**, GPA 4.0   * Master of Science in Computer Science | *St. Louis, MO*  *Aug 2018 –* *May 2020* |
| **Beihang University**, GPA 3.65   * Bachelor of Science in Computer Science and Engineering | *Beijing, China*  *Aug 2014 – May 2018* |

**PUBLICATION**

* Xiaochen Zhou, Bosheng Li, Bedrich Benes, Songlin Fei, Sören Pirk, “*DeepTree: Modeling Trees with Situated Latents*”, accepted by TVCG 2023.
* Xiaochen Zhou, Pascal Chang, Marie-Paule Cani, Bedrich Benes, “*Urban Brush: Intuitive and Controllable Urban Layout Editing*”, accepted by UIST 2021.
* Xiaochen Zhou\*, Cheng Zhang\*, Biao Leng, Cheng Xu, Kai Xu, “*Learning Discriminative 3D Shape Representations by View Discerning Networks*”, accepted by TVCG.
* 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-based Hard Case 3D Model Retrieval** *Facebook FRL, WA*

*Research Scientist Intern Jun 2021 – Aug 2021*

* Deployed global-local region attention network for non-rigid object retrieval with PyTorch and Pytorch lightning
* Designed and optimized local feature self-attention unit for unique and rigid local region feature extraction.
* Rendered Sapien dataset, boosted ~2% retrieval accuracy on Sapien and ~5% on Facebook internal synthetic dataset.

**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
* Designed two different self-attention units for unique feature extraction.
* Used LSTM in ordered feature extraction and aggregated extracted information as features for 3D shapes.

**Skill Set**

* **Program Language:** Python, CUDA, C++, Matlab, HTML, CSS
* **Skills**: Pytorch,, Tensorflow, Keras, OpenCV, OpenGL