Zeyuan Chen

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Education

University of California San Diego, La Jolla, CA   Sep. 2022 – Present

Ph.D. student in Computer Science and Engineering

- Advisor: Prof. Zhuowen Tu
- Research interests: 3D modeling and reconstruction; Computational Photography

University of Science and Technology of China, Hefei, China   Sep. 2018 – Jun. 2022

B.S. in Data Science and Big Data Technology

- GPA: 3.70 / 4.3, Major GPA: 3.95 / 4.3

Publications

- Yuefan Wu*, **Zeyuan Chen***, Shaowei Liu, Zhongzheng Ren, Shenlong Wang, "CASA: Category-agnostic Skeletal Animal Reconstruction," in **Neurips'22**
- **Zeyuan Chen**, Yinbo Chen, Jingwen Liu, Xingqian Xu, Vidit Goel, Zhangyang Wang, Humphrey Shi, Xiaolong Wang, "VideoINR: Learning Video Implicit Neural Representation for Continuous Space-Time Super-Resolution," in **CVPR'22**
- **Zeyuan Chen**, Yangchao Wang, Yang Yang, Dong Liu, "PSD: Principled Synthetic-to-Real Dehazing Guided by Physical Priors," in **CVPR'21 (oral)**
- **Zeyuan Chen**, Yifan Jiang, Dong Liu, Zhangyang Wang, "CERL: Coordinated Enhancement for Real-World Low-Light Noisy Images," in **IEEE Transactions on Image Processing (TIP)**

Experience

University of Illinois Urbana-Champaign   Jun. 2021 – Aug. 2022

Topic: Non-Rigid 3D Reconstruction   **Advisor:** Prof. Shenlong Wang

- Constructed a large-scale dataset for non-rigid 3d construction; Collected over 200 different types of animal models from a video game and use *Blender* to animate these models with randomized actions.
- Proposed an optimization-based framework for reconstructing 3D animal skeletal shape.

University of California San Diego   Apr. 2021 – Nov. 2021

Topic: Video Implicit Neural Representation   **Advisor:** Prof. Xiaolong Wang

- Proposed a novel Video Implicit Neural Representation (VideoINR) as a continuous video representation.
- VideoINR allows for representing videos in arbitrary space and time resolution efficiently with one single network, without additional fine-tuning on each video.

VITA, UT Austin   Dec 2020 – Mar 2021

Topic: Real-world low-light Enhancement   **Advisor:** Prof. Atlas Wang and Prof. Dong Liu

- Leveraged an iterative optimization framework to dis-entangle the noise and light in low-light enhancement tasks by integrating off-the-shelf denoising and enhancement models.
- Introduced a self-supervised training scheme based on the Retinex Theory for the fine-tuning of denoising models on real low-light noise.

VITA, UT Austin   Jun. 2020 – Nov. 2020

Topic: Self-supervised Image Dehazing.   **Advisor:** Prof. Atlas Wang and Prof. Dong Liu

- Proposed a synthetic-to-real generalization framework for dehazing, establishing a new state-of-the-art real-world dehazing performance.
- Explored physical/statistical rules for the dehazing task and leveraged traditional dehazing priors as the guidance for unsupervised model fine-tuning.

Data Science Lab at McMaster, McMaster University   Jun. 2020 – Aug. 2020

Topic: Entity Evolution Analysis.   **Advisor:** Prof. Fei Chiang

- Extracted entity properties from multiple large-scale databases; Leveraged graph representation for entity-relationship modeling.
- Explored the underlying cause of value changes in data entries for a better understanding on data and schema evolution.

PROJECTS AND ACTIVITIES

Semantic Segmentation Enhanced Style Transfer   Dec. 2020

- Developed a new framework using semantic information extracted by FastFCN to guide the style transfer process of CycleGAN.

Big data training camp for Top universities in China   Aug. 2019

- Solved a credit prediction problem with users by leveraging their historical financial information.

LC3 simulator and assembler   Dec. 2019

- Wrote a simulator and an assembler for LC3 in both python and C; encoded extra features, such as run time recording, that did not exist in the official LC3 simulator.

SKILLS

Programming Languages: Python, C/C++, MATLAB, R, LaTeX
Programming Libraries, Tools, and Frameworks: PyTorch, Pytorch3D, TensorFlow, Keras, Pandas