Zeyuan Chen

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Education

University of Science and Technology of China, Hefei, China 09/2018 – 06/2022

Major: Data Science and Big Data Technology, GPA: 3.85 / 4.3

- Course Highlight: Computer Vision (100); Introduction to Computer Systems (H) (93); Introduction to Database System (95); Foundations of Algorithms (92); Data Structure (94);
- Selected Awards: Gold Prize for Outstanding Student Scholarship (2020, 5%)

Publications

- **Zeyuan Chen**, Yangchao Wang, Yang Yang and Dong Liu, "PSD: Principled Synthetic-to-Real Dehazing Guided by Physical Priors," in **CVPR'21 (oral)**,
- **Zeyuan Chen**, Yinbo Chen, Jingwen Liu, Xingqian Xu, Vidit Goel, Zhangyang Wang, Humphrey Shi and Xiaolong Wang, "STIF: Learning Continuous Video Representation for Space-Time Super-Resolution," Submitted to **CVPR'22** and under review,
- **Zeyuan Chen**, Yifan Jiang, Dong Liu and Zhangyang Wang, "CERL: Coordinated Enhancement for Real-World Low-Light Noisy Images," Submitted to TIP and under review

Experience

University of Illinois Urbana-Champaign 06/2021 – Present

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

- Built a large-scale dataset for non-rigid 3d reconstruction using Blender, which includes videos of more than two hundred kinds of animals with randomized actions.
- Explored implicit neural representations for category-agnostic animal shape reconstruction.

University of California San Diego 04/2021 – 11/2021

Topic: Continuous Video Representation **Advisor:** Prof. Xiaolong Wang

- Proposed a novel Space-Time Implicit Function as a continuous video representation that allows for representing the video in arbitrary space and time resolution.
- Incorporated a temporal implicit function in the proposed approach, which defines a learnable continuous motion flow field for the correspondences across video frames.

VITA, UT Austin 12/2020 – 03/2021

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

- Proposed an optimization framework to disentangle the low-light enhancement task into separated sub-problems and solve them by plug-and-play iterations.
- Presented a self-supervised denoising model that is easily adapted for real noise removal without referring to any ground-truth clean image; as well as a improved state-of-the-art enhancement backbone.

VITA, UT Austin 06/2020 – 11/2020

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

- Proposed a synthetic-to-real generalization framework for dehazing, which establishes the new state-of-the-art real-world dehazing performance.
- Explored physical/statistical rules for the dehazing task and leveraged traditional dehazing priors to boost the learning-based framework.

Data Science Lab at McMaster, McMaster University 06/2020 – 08/2020

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

- Data cleaning and filtering: Extracted and formulated raw data from several large-scale databases.

- Data modeling: Used graphs to model information about entities, their properties, and relationships between entities.
- Evolution Analysis: Exploring the underlying cause of changes in the data to discover discover changes patterns and explain data and schema evolution.

Projects and Activities

Semantic Segmentation Enhanced Style Transfer 12/2020

- Proposed a novel framework using semantic information from FastFCN to guide the style transfer process by CycleGAN.

Big data training camp for Top universities in China 08/2019

- Solved a problem of predicting credits of users using their history financial information.

LC3 simulator and assembler 12/2019

- Wrote a simulator and an assembler for LC3 in both python and C, with some extra features like running time recording compared to the official LC3 simulator.

Skills

Programming Languages: Python, C/C++, MATLAB, R, LaTeX, Assembly Language
Tools and Frameworks: LaTeX, PyTorch, TensorFlow, Keras, Pandas
Language: TOEFL: 107 (Reading: 27, Listening: 30, Speaking: 23, Writing: 27)