

Chen Hou

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EDUCATION

University of Science and Technology of China <i>M.Eng. in Electronic Information</i>	September 2021 – June 2024 China
Dalian University of Technology <i>B.Eng. in Electronic Information Engineering (rank top 5%)</i>	September 2017 – June 2021 China

PUBLICATIONS

- Chen Hou**, Guoqiang Wei, Yan Zeng, and Zhibo Chen. **Training-free Camera Control for Video Generation**. Under review. Project page: <https://lifedecoder.github.io/CamTrol/>.
- Chen Hou**, Guoqiang Wei, and Zhibo Chen. **High-Fidelity Diffusion-Based Image Editing**. *Proceedings of the AAAI Conference on Artificial Intelligence (AAAI)*, 2024.
- Jun Fu, **Chen Hou**, Wei Zhou, Jiahua Xu, and Zhibo Chen. **Adaptive Hypergraph Convolutional Network for No-Reference 360-degree Image Quality**. *ACM International Conference on Multimedia (ACM MM)*, 2022.
- Jun Fu*, **Chen Hou***, and Zhibo Chen. **360HRL: Hierarchical Reinforcement Learning Based Rate Adaptation for 360-Degree Video Streaming**. *IEEE International Conference on Visual Communications and Image Processing (VCIP)*, 2021.
- Jun Fu, **Chen Hou**, and Zhibo Chen. **AutoDerain: Memory-efficient Neural Architecture Search for Image Deraining**. *IEEE International Conference on Visual Communications and Image Processing (VCIP)*, 2021.
- Xingrui Wang, Xin Li, Yaosi Hu, Hanxin Zhu, **Chen Hou**, Cuiling Lan, and Zhibo Chen. **TIV-Diffusion: Towards Object-Centric Movement for Text-driven Image to Video Generation**. Under review.

EXPERIENCES

AI Lab, ByteDance <i>Research Intern</i>	January 2024 – June 2024
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- Worked on data classification for training video foundation models.
- Proposed a novel, training-free approach for camera movement control in video diffusion models.

PROJECTS

Sequence Generation of Protein	September 2022 - Present
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- We want to explore how proteins are connected to each other.
- We propose an innovative pipeline captures the laws within connecting sequence modeling.
- Successfully generate connections which are nonexistent in natural world, but exhibit enhanced functionality.

Camera Control for Video	March 2024 - July 2024
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- Proposed a solution towards camera motion control in video generations, training-free and useful.
- Unsupervised generations of 3D data merely from video foundation models.

Image Editing	January 2022 - August 2023
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- Researched on generative models and editing problems.
- Proposed a method tackles with inferior editing fidelity of diffusion models.

Reinforcement Learning Applications	December 2020 - November 2021
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- Researched on reinforcement learning and its applications in sequential decision-making tasks.
- Propose a RL-based framework to improve adaptive video streaming performance in panoramic scenes.