

# KE XING



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## EDUCATION

### B.S. Student. Beijing Jiaotong University, China

2022.9 – Now

*Computer Science and Technology*

Advisor: Prof. Xiaojie Jin

Research interests in 3D Vision and Video Generation.

## RESEARCH EXPERIENCE

### Stereoscopic Video Generation

2025.08 – 2025.11

The rising demand for high-quality stereo video in XR applications contrasts with the high cost and frequent artifacts of current production methods. To address this gap, we propose StereoWorld, an end-to-end framework that converts monocular videos into high-fidelity stereo pairs. Our method repurposes a pretrained video generator with geometry-aware regularization to ensure 3D structural accuracy, and uses a spatio-temporal tiling scheme for efficient high-resolution synthesis. We also build a large stereo video dataset with over 11M IPD-aligned frames.

### 4D Panoramic Scene Generation and Reconstruction

2024.02 – 2025.07

With the rapid development of VR/AR technologies, the demand for high-quality immersive dynamic scenes has increased. We propose a dual-branch architecture for panoramic video generation, consisting of a perspective branch for local detail and diversity, and a panorama branch for global consistency. Furthermore, we extend the generated panoramic video to the 4D domain through spatial-temporal alignment reconstruction, ensuring coherent spatial and temporal representation.

### Protein Sequence Classification

2023.04 – 2024.04

Inspired by the remarkable sequence processing capabilities of pre-trained NLP models like BERT, we investigated applying BERT, pre-trained on large-scale protein sequence datasets and fine-tuned on domain-specific data, to address protein sequence classification within specific domains.

### Video Distortion Correction

2024.05 – 2025.04

Developed a diffusion-based framework for wide-angle video distortion correction by learning image-level optical flow and transferring it to video via pseudo-labeling and temporal consistency, effectively addressing limited labeled data.

## PUBLICATIONS

- **Ke Xing**, Longfei Li, Yuyang Yin, Hanwen Liang et al. “StereoWorld: Geometry-Aware Monocular-to-Stereo Video Generation” **CVPR, 2026, CCF-A, Submission**.
- Wenbo Nie, Lang Nie, Chunyu Lin, Jingwen Chen, **Ke Xing**, Jiyuan Wang et al. “Beyond Wide-Angle Images: Structure-to-Detail Video Portrait Correction via Unsupervised Spatiotemporal Adaptation.” **AAAI, 2026, CCF-A**.
- **Ke Xing\***, Hanwen Liang\*, Dejia Xu, Yuyang Yin, Konstantinos N. Plataniotis, Yao Zhao, Yunchao Wei. “TiP4GEN: Text to Immersive Panorama 4D Scene Generation.” **ACM Multimedia, 2025, CCF-A**.
- Ana Martínez Gascueña, Haiyang Wu, Rui Wang, C David Owen, Pedro J Hernando, Serena Monaco, Matthew Penner, **Ke Xing** et al. “Exploring the sequence-function space of microbial fucosidases.” **Nature Communications Chemistry, 2024**.

## INTERNSHIP EXPERIENCE

### Dzine.ai, China

2025.08 – 2026.02

Research Topics: Stereoscopic Video Generation for XR/VR Devices