

## 1 Highlights

**Experienced:** 3+ years of research and collaborations experience.

**Prestigious affiliations:** Tencent XR Vision Labs, Baidu Autonomous Driving.

**Keywords:** 3D Content Generation on Mesh; Generative Models; Personalized Image Generation with Large Pretrained Model; Human Motion Generation with Sparse Observation

## 2 Education

**Ph.D.**, Australian National University, Australia

**2024 - 2028**

- Research Interests: 3D Object Generation, Computer Graphics, Customized Generation with Large Multi-modality Pre-trained Model and Human Motion Generation.

- Supervisor: Prof. Hongdong Li, Prof. Richard Hartley, A/Prof. Mehrtash Harandi

**Master of Machine Learning and Computer Vision**, Australian National University, Australia

**2021 - 2023**

- Thesis topic: Generative Model Approaches for 3D Full-Body Human Pose Reconstruction from Sparse Joint Observations.

**Bachelor of Electrical Engineering**, Harbin Institute of Technology & University of Sydney

**2016 - 2020**

## 3 Research Projects

**Personalized Image Generation with Large Text-to-Image Model**

- Brief: This is an ongoing project that aims to customize the large model trained on tons of the dataset to generate the image with user's input image. And the research problems are generating image conditioned on both text and images, finding the representative features from the given images and control the generation during inference, perform model editing by manipulating the attention mechanisms.

**Diffusion Generation on 3D Mesh with Manifold Surface Formulation**

- Brief: Representing 3D mesh as discrete manifold surface and textures as function resided on the manifold, generating texture distribution with diffusion model.

- Research Output: **Xuyang Wang**, Ziang Cheng, Zhenyu Li, Jiayu Yang, Haorui Ji, Pan Ji, Mehrtash Harandi, Richard Hartley, Hongdong Li "DoubleDiffusion: Combining Heat Diffusion with Denoising Diffusion for Generative Learning on 3D Meshes". Preprint, under review, 2025. [Project link](#).

**Monocular Depth Estimation**

- Brief: Tackling the Monocular Depth Estimation task with the first DERT-like decoder structure to perform coarse-to-fine depth maps estimation.

- Research Output: Zhenyu Li, **Xuyang Wang**, Junjun Jiang, Xianming Liu, "BinsFormer: Revisiting Adaptive Bins for Monocular Depth Estimation". IEEE Transactions on Image Processing 2024, [Project link](#).

## 4 Internship Experience

**Research Intern**

**Tencent XR Vision Labs, Canberra, Australia**

**2022.08 - 2023.05**

- Project: *3D Human Pose Estimation and Reconstruction from the VR equipment*, supervised by **Prof. Hongdong Li**.
- The work reconstructs the full body SMPL model from VR headset and controllers' signals with Transformer, VAE, CVAE and diffusion model.

**Software Engineer Intern**

**Baidu Inc., Shanghai, China**

**2021.11 - 2022.01**

- Project: *3D Points Clouds Tracking for Vehicles*, supervised by the Baidu's Automatic Driving Engineering Group.
- Developed a 3D points cloud tracking software for NuScenes and Baidu's datasets. The software comprises a point cloud visualization tool, a data pre-processing module, and a neural tracking module with CenterPoints algorithm.

**Software Engineer Intern**

**Pushi AI, Haikou, China**

**2021.05 - 2021.07**

- Project: *Data Analysis for Cross-Broader E-Commerce*, supervised by the Knowledge Graphs Algorithm Group.
- Developed a data crawling and analysis software for the project independently.

## Research Intern

**Corerain Technologies, Shenzhen, China**

**2019.12 - 2020.02**

- Project: **Deep Learning Acceleration on Hardware**, supervised by Dr. Kuen Hung Tsoi, Dr. Zhiqiang Que.
- Researched on the topic "Acceleration Potentials for NLP's Algorithms on Hardware Implementation". Specifically, we investigated the parallelism capabilities of arithmetic logic units in RNN, GRU, LSTM and Attention mechanism.

## 5 Academic Services

## Academic Tutor

**Australian National University**

**2022 - 2024**

- **COMP8610 Computer Graphics**, covering rendering process, mesh structure, texturing, shading and material animation. Semester 1 2024, supervised by Prof. Hongdong Li.
- **COMP8536 Advanced topics of Deep Learning in Computer Vision**, covering deep learning architectures, transformers, attention mechanisms, generative learning, object detection. Semester 2 2022, supervised by Prof. Nick Barnes.

**Conference Reviewer:** ECCV 2024, ECCVW 2024, NIPS 2024, CVPR 2025, ICML 2025

## 6 Scholarships

### University Research Scholarship

**2024.01 - 2028.01**

- Issued by the Australian National University (College of Computer Science, Engineering and Cybernetics) for International Research Candidates.
- Associated with ANU HDR Fee Merit Scholarship, covering all tuition fees for Ph.D degree.

## Hex Singapore Program Scholarship

**2023.06 - 2023.07**

- Issued by the Australian National University (College of Computer Science, Engineering and Cybernetics), funding for the HEX Singapore program, return airfares, accommodation and A\$200 food allowance.

## Faculty of Engineering and Information Technologies Credit Agreement Scholarship

**2018.08 - 2020.06**

- Issued by the University of Sydney.

## Vice Chancellor's Global Mobility Scholarship

**2019.07 - 2019.08**

- Summer school program "Global Cities as Center of Knowledge Production" at Humboldt University of Berlin.
- Issued by the University of Sydney.