Xuyang WANG (She / Her)

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1 Education

Master of Machine Learning and Computer Vision, Australian National University, Australia   **2021.08 - 2023.07**
- GPA: 6.289/7.0
- Thesis topic: Generative Model Approaches for 3D Full-Body Human Pose Reconstruction from Sparse Joint Observations. Thesis Link

Bachelor of Engineering (Honor), University of Sydney, Australia   **2018.08 - 2020.06**
- Major in Telecommunication Engineering.
- WAM 72.5/100. Graduated with Honours Class 2, Division 1.

Bachelor of Engineering, Harbin Institute of Technology (HIT), China   **2016.08 - 2020.06**
- Major in Electrical Engineering and Automation.
- 2+2 Program with University of Sydney

2 Research Publication

Zhenyu Li, **Xuyang Wang**, Junjun Jiang, Xianming Liu, **"BinsFormer: Revisiting Adaptive Bins for Monocular Depth Estimation"**. Arxiv. (Submitted to IEEE TIP). [pdf]
- Tackling the Monocular Depth Estimation task with the first DERT-like decoder structure to perform coarse-to-fine depth maps estimation, on KITTI, NYU, and SUN RGBD datasets.
- Ranked 1st on KITTI depth estimation benchmark (Feb, 2022).

3 Internship Experience

Research Intern   **Tencent XR Lab, 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 preprocesing 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.

4 Teaching Experience

Academic Tutor   **Australian National University**   **2022.08 - 2022.12**
- Tutored ***COMP8536 Advanced topics of Deep Learning in Computer Vision*** in Semester 2 2022, supervised by Prof. Nick Barnes.

5 Project Experience

Portrait Background Replacement with Image Matting and Relighting, Australia   **2022.08 - 2022.11**
- Course project for COMP6528 Computer Vision. The work designed a novel algorithm for high-fidelity background replacement, composed by human detection, background matting and the portrait relighting modules. A large scale

simulation dataset was proposed as well. **Report Link**

Personality Prediction From What They Say: Semantic Analysis of MBTI, Australia 2022.03 - 2022.05
- Course project for ENGN8535-Engineering Data Analysis. The work implemented word vectorization and machine learning techniques to inference users' MBTI personalities from their language. **Report Link**

Pedestrian Tracking for Crowded Scenes with YOLOX, Australia 2021.09 - 2021.11
- Course project for COMP8536 Deep Learning for Computer Vision. We developed a pedestrian tracking algorithm for crowded scenes with DeepSORT and YOLOx. **Report Link**

Wireless Signal Modulation Classification with on PCA and UMAP, Australia 2019.07 - 2020.06
- Bachelor Honor thesis supervised by Prof. Philip Leong. Developed a learning based modulation classifier for GNU radio signals under different noise conditions.

NASA International Space App Challenge, Australia 2019.10
- 2019 NASA Space App challenge. Developed an educational app utilising NASA's satellite database. 1st runner up, awarded with the "Local People Choice Winner". **Demo**

6 Scholarships

Hex Singapore Program Scholoarship 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.

7 Miscellaneous

Pitch Winner, Hex Singapore 2023.06 - 2023.07
- Winner Pitch at HEX Singapore, with entrepreneurs and industry stakeholders in Singapore.

Gear Officer, Bush Walk Society of University of Sydney (SUBW) 2019.03 - 2020.03
- Member in SUBW Committee. Responsible for the hiking equipment management and trip organisation for Kiama Coast and the annual Christmas Walk.

Museum Guide, HIT Museum, Harbin, China 2017.10 - 2018.06
- English guiding assistant for Harbin Institute of Technology History Museum.
- Awarded as the "Best Narrators of 2017" of HIT museum.

8 Skills

- **Programming**: Python, Java, C, MATLAB
- **Deep Learning Framework**: Pytorch
- **Research Interest**: Generative Models, 3D Human Pose Estimation and Motion Generation, Low Level Computer Vision, Tracking.
- **Other skills:** Teamwork, Communication, Social Engagement, Business Analysis; Proficient with Management and Presenting Software (Canva, Microsoft Powerpoint, Flowchart etc.)