

Tao Hu

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RESEARCH MANAGER IN NATIONAL UNIVERSITY OF SINGAPORE (NUS)

EDUCATION

Chinese University of Hong Kong, Hong Kong SAR, China
Doctor of Philosophy, Computer Science and Engineering
[Prof. Jiaya Jia.](#) 30/6/2023
University of Chinese Academy of Sciences, Beijing, China
Master of Engineer, Computer Science 30/6/2019
University of Electronic Science and Technology of China, Chengdu, China
Bachelor of Engineer, Automation Engineering 30/6/2016
GPA: 3.7/4 Ranking: 3/221

RESEARCH INTERESTS

Computer Graphics (3D Rendering and Reconstruction), Computer Vision (Alignment and Recognition), Neural Radiance Fields

PUBLICATIONS

- **Tao Hu**, Wenhong Ge, Yuyang Zhao, Gim Hee Lee. "X-Ray: A Sequential 3D Representation for Generation." **arXiv preprint arXiv:2404.14329**.
 - Wenhong Ge, **Tao Hu**, Haoyu Zhao, Shu Liu, Ying-Cong Chen. "Ref-NeuS: Ambiguity-Reduced Neural Implicit Surface Learning for Multi-View Reconstruction with Reflection." **ICCV-2023**.
 - **Tao Hu**, Xiaogang Xu, Ruihang Chu, Jiaya Jia. "TriVol: Point Cloud Rendering via Triple Volumes." **CVPR-2023**.
 - **Tao Hu**, Xiaogang Xu, Shu Liu, Jiaya Jia. "Point2Pix: Photo-Realistic Point Cloud Rendering via Neural Radiance Fields." **CVPR-2023**.
 - Zhou Kun, Wenbo Li, Yi Wang, **Tao Hu**, Nianjuan Jiang, Xiaoguang Han, Jiangbo Lu. "NeRFLix: High-Quality Neural View Synthesis by Learning a Degradation-Driven Inter-viewpoint MiXer". **CVPR-2023**.
 - **Tao Hu**, Shu Liu, Yilun Chen, Tianchen Shen, Jiaya Jia, "EfficientNeRF: Efficient Neural Radiance Fields." **CVPR-2022**.
 - **Tao Hu**, Liwei Wang, Xiaogang Xu, Shu Liu, Jiaya Jia, "Self-Supervised 3D Mesh Reconstruction from Single Images." **CVPR-2021**.
 - **Tao Hu**, Honggang Qi, Qingming Huang, Yu Lu, "See better before looking closer: Weakly supervised data augmentation network for fine-grained visual classification." **arXiv preprint arXiv:1901.09891**
 - **Tao Hu**, Honggang Qi, Cong Huang, Qingming Huang, Yan Lu, Jizheng Xu, "Weakly Supervised Local Attention Network for Fine-Grained Visual Classification." **arXiv preprint arXiv:1808.02152**
 - **Tao Hu**, Honggang Qi, Jizheng Xu, Qingming Huang, "Facial Landmarks Detection by Self-Iterative Regression Based Landmarks-Attention Network." **AAAI-2018**
 - S Lyu, MC Chang, D Du, L Wen, H Qi, Y Li, Y Wei, L Ke, **Tao Hu**, "UA-DETRAC 2017: Report of avss2017 & iwt4s challenge on advanced traffic monitoring" **AVSS-2017: 1-7**
 - Michael Felsberg, Matej Kristan, ..., **Tao Hu**, ..., "The Thermal Infrared Visual Object Tracking VOT-TIR2016 Challenge Results", **ECCV Workshops (2) 2016: 824-849**
 - Matej Kristan, Ales Leonardis, ..., **Tao Hu**, ..., "The Visual Object Tracking VOT2016 Challenge Results.", **ECCV Workshops (2) 2016: 777-823**
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EXPERIENCE

RealityEditor

Founder

June. '1,2022 - present

- An online platform for Interaction-to-Generation
- Friendly User interface and Interaction
- Replace Anything in the World - [HomePage](#)

Digital Twin and 3D Reconstruction in SmartMore Technology Co.Ltd

As the Team Leader

Mar. '1,2021 - present

- Significantly improve the efficiency of NeRF: (Training $\times 10$, Testing $\times 3000$).
- High-Quality 3D Reconstruct in 10 minutes.
- Interactive 3D Reconstruction in 5 minutes.

Fine-grained Image Classification in Tencent

Research Intern

August. '1,2019 - 2020

- Proposed **Weakly Supervised Learning Attention Network** to solve the fine-grained visual classification problem.

Research Intern in Microsoft Research Asia (MSRA)

Mentor : Prof. Jizheng Xu

Jan. '4,2018 - 11,2018

- Devised solving strategies to reduce reference time on existing Object Detection Methods
- Up to 30% improvement in object localization task in CUB-200-2011 dataset
- [Office Website](#)

Animal Face Recognition in InnovationAI Technology Co.Ltd

As Team Leader

Mar. '1,2017 - 2019

- Significantly improved the performance of animal face recognition
- Won the **Runner-up** prize in the JDD pig face recognition Challenge
- Designing Animal Face Recognition Algorithm for Agriculture and Insurance
- Released apps and services for Pig, Cow and Donkey face recognition
- [Official Website](#)

UA-DETRAC Visual Tracking Dataset

Supervisor : Prof. Siwei Lyu & Dr. Longyin Wen

Aug '1,2016 - May '1,2017

- Multiple Object Tracking in Monitoring Scenario
- Building a automatic evaluation system for UA-DETRAC Dataset
- [Office Website](#)

VOT2016 Visual Object Detection Challenge

Sponsor : VOT

Jul.'14,2016 - Aug.'12,2016

- Participated in the Challenge
- Fine-Tuned the model GGT and improve the performane by 4%
- Final ranked 14th and 19th
- [Official Website](#)

COMPUTER SKILLS

Languages: Python, C/C++, CUDA, JavaScript, L^AT_EX
Research Tools: Tensorflow, Pytorch

EXTRA INTERESTS

Hobbies: Competitive Programming, History, Video Games, Guitar