Xuran Pan

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Research Interests

My research focuses on machine learning and computer vision, in particular deep learning, architecture design, and 3D computer vision.

Education

Ph.D, **Department of Automation, Tsinghua University** **2018 - Present**
Advisors: Cheng Wu and Gao Huang

B.S., **Department of Automation, Tsinghua University** **2014 - 2018**
GPA Rank: 22/141

Awards & Honors

- Academic Excellence Scholarship, Tsinghua University, 2021
- Academic Excellence Scholarship, Tsinghua University, 2015

Publications & Preprints

1. **Xuran Pan**, Zihang Lai, Shiji Song, Gao Huang. ActiveNeRF: Learning where to See with Uncertainty Estimation. *European Conference on Computer Vision* (ECCV), 2022.
2. **Xuran Pan**, Chunjiang Ge, Rui Lu, Shiji Song, Guanfu Chen, Zeyi Huang, Gao Huang. On the Integration of Self-Attention and Convolution. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition* (CVPR), 2022.
3. Zhuofan Xia*, **Xuran Pan***, Shiji Song, Li Erran Li, Gao Huang. Vision Transformer with Deformable Attention. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition* (CVPR), 2022.
4. **Xuran Pan**, Shiji Song, Yiming Chen, Liejun Wang, Gao Huang. PLAM: A Plug-in Module for Flexible Graph Attention Learning. *Neurocomputing*, 2022.
5. **Xuran Pan***, Zhuofan Xia*, Shiji Song, Li Erran Li, Gao Huang. 3D Object Detection with Pointformer. *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition* (CVPR), 2021.
6. Yulin Wang, Gao Huang, Shiji Song, **Xuran Pan**, Yitong Xia, Cheng Wu. Regularizing Deep Networks with Semantic Data Augmentation. *IEEE Transactions on Pattern Analysis and Machine Intelligence* (T-PAMI), 2021.
7. Yulin Wang*, **Xuran Pan***, Shiji Song, Hong Zhang, Cheng Wu, Gao Huang. Implicit Semantic Data Augmentation for Deep Networks. *Neural Information Processing Systems* (NeurIPS), 2019.

*** Equal contribution**

Research Projects

- Model architecture design for computer vision, Tsinghua University, 2018 - Present
- 3D computer vision including autonomous driving, point cloud and neural reconstruction, Tsinghua University & Amazon, 2020 - Present
- Underwater 2D/3D object detection, Tsinghua University & IOA of the Chinese Academy of Sciences, 2020 - Present
- Tansformer-based 2D efficient object detection, Tsinghua University & Huawei, 2019 - 2021

Skills

Computer Programming:
- Python, C, C++, Matlab, R, Markdown and others.