XIANPENG LIU

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EDUCATION

North Carolina State University, Raleigh, NC *Aug. 2018 - Dec. 2023*
Ph.D. in Electrical Engineering
Research Interest: Computer Vision, Deep Learning, Machine Learning, Data Science

Harbin Institute of Technology, Harbin, China *Aug. 2012 - June 2018*
M.S. in Materials Processing Engineering
B.Eng. in Welding Science and Technology, Honors School (top 5%)

EMPLOYMENT

Research Intern, Innopeak Technology Inc. Bellevue, WA
Mentor: Dr. Guojun Qi Summer, Fall 2022
Designed and implemented deep learning-based 3D object detection algorithms for autonomous driving applications (**Python, Pytorch**) with focus on camera-based perception.

PUBLICATIONS

[8] **X. Liu**, C. Zheng, K. Cheng, N. Xue, G. Qi and T. Wu. "Monocular 3D Object Detection with Bounding Box Denoising in 3D by Perceiver." in *Proceedings of the IEEE/CVF International Conference on Computer Vision (**ICCV**), 2023.*

[7] C. Zheng, **X. Liu**, G. Qi and C. Chen. "POTTER: Pooling Attention Transformer for Efficient Human Mesh Recovery." in *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023*. (Acceptance Rate 25.8%, 2360/9155.)

[6] **X. Liu**, N. Xue and T. Wu. "Learning Auxiliary Monocular Contexts Helps Monocular 3D Object Detection." in *Proceedings of the AAAI Conference on Artificial Intelligence (**AAAI**), 2022*. (Acceptance Rate 14.6%, 1349/9020.)

[5] J. Wu, C. Wong, X. Zhao and **X. Liu**. "Toward Effective Automated Content Analysis via Crowdsourcing." in *IEEE International Conference on Multimedia and Expo (**ICME**)*, pp. 1-6, held virtually, July 2021.

[4] **X. Liu** and C. Wong. "Video-based Wetting Detection for Blended Fabrics." in *IEEE Asilomar Conference on Signals, Systems, and Computers (**ACSSC**)*, pp. 89-93, Pacific Grove, USA, November 2019.

[3] W. Ren, H. Geng, L. Zhang, **X. Liu**, T. He and J. Feng. "Simultaneous Blocking of Minority Carrier and High Energy Phonon in p-type Skutterudites." in *Nano Energy* Vol 46, pp. 249-256, April 2018.

[2] **X. Liu**, L. Zhang, Z. Sun and J. Feng. "Microstructure and Mechanical Properties of Transparent Alumina and TiAl Alloy Joints Brazed using Ag-Cu-Ti Filler Metal." in *Vacuum* Vol 151, pp. 80-89, May 2018.

[1] L. Zhang, J. Yang, Z. Sun, **X. Liu** and J. Feng. "Vacuum Brazing Nb and BN-SiO2 Ceramic using a Composite Interlayer with Network Reinforcement Architecture." in *Ceramics International* Vol 43(11), pp. 8126-8132, August 2017.

ACADEMIC EXPERIENCES

Graduate Research Assistant, Interpretable Visual Modeling, Computing and Learning Lab Raleigh, NC
Advisor: Prof. Tianfu Wu 2020 - Present
Designed and implemented deep learning-based **3D object detection** algorithms for camera-based autonomous systems (**Python, Pytorch**). These algorithms achieve State-of-the-Art performance (detection accuracy and inference speed) on various challenging dataset benchmarks (KITTI, NuScenes, Waymo).

Graduate Research Assistant, Multimedia and Forensics Lab Raleigh, NC
Advisor: Prof. Chau-Wai Wong 2018 - 2020
Designed and implemented algorithms for video analysis and social media context analysis (**Python, Numpy, Scipy, Pandas, Matplotlib, Seaborn, JavaScript, PHP**).

Graduate Teaching Assistant Raleigh, NC
Department of Electrical and Computer Engineering 2019 - 2021
Teaching assistant for graduate courses including: Computer Vision, Probabilistic Graphical Models, Neural Networks, Introduction to Machine Learning, Random Processes.

SKILLS

Programming:	Python, C/C++, JavaScript, PHP, HTML/CSS, SQL
Libraries:	*Machine Learning & Data Science:* Numpy, Scipy, Pandas, Matplotlib, Seaborn
	Deep Learning: Pytorch, Tensorflow, Keras
	Computer Vision: OpenCV, MMDetection, MMDetection3d, Detectron2
Tools:	Matlab, Git, LaTeX, Vim

COMMUNITY SERVICES

Journal and Conference Reviewer:	**Journal:** Image and Vision Computing, Neurocomputing, Neural Networks, IEEE/CAA Journal of Automatica Sinica, Frontiers of Computer Science
	Conference: CVPR, ICCV, ECCV
Open Source Projects:	**AAAI'22 Paper:** https://github.com/Xianpeng919/MonoCon