

Bangyan Liao

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Education

Hunan University, BS in Automation.	Sept 2019 – June 2023
Westlake University & Zhejiang University (Joint Program), PhD in Computer Science and Technology. Advisor: Prof. Peidong Liu.	Sept 2023 – June 2028 (expected)

Publications

DaCapo: Score Distillation as Stacked Bridge for Fast and High-quality 3D Editing	2025
Yufei Huang, Bangyan Liao , Yuqi Hu, Haitao Lin, Lirong Wu, Siyuan Li, Cheng Tan, Zicheng Liu, Yunfan Liu, Zelin Zang, Chang Yu, Zhen Lei Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)	
Convex Relaxation for Robust Vanishing Point Estimation in Manhattan World	2025
Bangyan Liao* , Zhenjun Zhao*, Haoang Li, Yi Zhou, Yingping Zeng, Hao Li, Peidong Liu Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)	
Ego-motion Estimation for Vehicles with a Rolling Shutter Camera	2024
Y Zhang, B Liao , D Qu, J Wu, X Lu, W Li, Y Xue, Y Lao IEEE Transactions on Intelligent Vehicles (IEEE TIV)	
RSL-BA: Rolling Shutter Line Bundle Adjustment	2024
Y Zhang*, B Liao* , Y Xue, C Lu, P Liu, Y Lao European Conference on Computer Vision (ECCV)	
GlobalPointer: Large Scale Plane Adjustment with Bi-Convex Relaxation	2024
B Liao* , Z Zhao*, L Chen, H Li, D Cremers, P Liu European Conference on Computer Vision (ECCV)	
Motion and Structure from Event-based Normal Flow	2024
Z Ren*, B Liao* , D Kong, J Li, P Liu, L Kneip, G Gallego, Y Zhou European Conference on Computer Vision (ECCV)	
Event-Aided Time-to-Collision Estimation for Autonomous Driving	2024
J Li*, B Liao* , X Lu, P Liu, S Shen, Y Zhou European Conference on Computer Vision (ECCV)	
USB-NeRF: Unrolling Shutter Bundle Adjusted Neural Radiance Fields	2024
M Li*, P Wang*, L Zhao, B Liao , P Liu International Conference on Learning Representations (ICLR)	
Fast Rolling Shutter Correction in the Wild	2023
D Qu*, B Liao* , H Zhang, O Ait-Aider, Y Lao IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI)	
Revisiting Rolling Shutter Bundle Adjustment: Toward Accurate and Fast Solution	2023
B Liao* , D Qu*, Y Xue, H Zhang, Y Lao Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)	

Preprints

EvTTC: An Event Camera Dataset for Time-to-Collision Estimation	2024
K Sun*, J Li*, K Dai, B Liao , W Xiong, Y Zhou Under Review at IEEE Robotics and Automation Letters (IEEE RAL)	

Experience

Visiting Student , AI4S Lab, Westlake University	Feb 2025 –
<ul style="list-style-type: none">• Advisor: Prof. Tailin Wu.• Researched at fundamental machine learning algorithm.	
Visiting Student , Prof. Lao's Lab, Hunan University	Apr 2021 – June 2023
<ul style="list-style-type: none">• Advisor: Prof. Yizhen Lao.• Researched at novel fundamental geometric and optimization solvers on Rolling Shutter camera.• Resulted in IEEE TPAMI and CVPR 2023 paper.	
Visiting Student , NAIL, Hunan University	Nov 2021 – June 2023
<ul style="list-style-type: none">• Advisor: Prof. Yi Zhou.• Researched at novel fundamental geometric and optimization solvers on Event camera.• Built and developed a vehicle forward warning software and hardware system with Event camera.• Resulted in two ECCV 2024 papers.	

Student Mentoring

Yingping Zeng	Aug 2024 -
<ul style="list-style-type: none">• co-supervised master student with Prof. Yi Zhou from Hunan University	
Hao Li	Oct 2024 -
<ul style="list-style-type: none">• visiting undergraduate student from Shandong University	
Zhisheng Song	Sep 2024 -
<ul style="list-style-type: none">• visiting undergraduate student from Shandong University	

Reviewing

The IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR)	2023 -
The International Conference on Computer Vision Conference (ICCV)	2024 -
The AAAI Conference on Artificial Intelligence (AAAI)	2024 -
The ACM Multimedia (ACM MM)	2025 -
The International Conference on 3D Vision (3DV)	2024 -
The IEEE International Conference on Robotics and Automation (ICRA)	2024 -
The IEEE Robotics and Automation Letters (RAL)	2024 -

Research Interests

Multi-view Geometry Problems in 3D Computer Vision	2023 -
Globally Optimal Outlier-Robust Optimization	2023 -
Diffusion Model / Flow Matching / Stochastic Interpolants	2023 -
Neural Optimal Transport / Deep Schrödinger Bridge	2024 -
Stochastic Optimal Control / Reinforcement Learning / Mean-field Game	2024 -
Learning to Optimize / Representation Alignment	2024 -

Skills

Languages: IELTS: 6.5 CET-4: 623 CET-6: 490

Programming: C/C++, Python, Matlab