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

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, Prof. Lao's Lab, Hunan University   Apr 2021 – June 2023
- 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

- 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 -

- co-surpervised master student with Prof. Yi Zhou from Hunan University

Hao Li	Oct 2024 -

- visiting undergraduate student from Shandong University

Zhisheng Song	Sep 2024 -

- visiting undergraduate student from Shandong University

Reviewing

The IEEE / CVF Computer Vision and Pattern Recognition Conference (CVPR)	2023 -
The AAAI Conference on Artificial Intelligence (AAAI)	2024 -
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