CHENGZHOU TANG

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RESEARCH INTERESTS

My PhD researches include low-&mid-level computer vision problems, especially on bridging the gap between deep learning techniques and conventional white-box computer vision methods.

FULL-TIME POSITIONS

Meta June 2022 - Current
Research Scientist

Work on Large-scale Multimodal Video Understanding.

Apple July 2020 - May 2022
Machine Learning Engineer

Work on Feature Representation Learning and Camera Pose Estimation.

RESEARCH INTERNSHIPS

Microsoft, AI Perception and Mixed-Reality, Redmond July 2019 - October 2019
Research Intern

- Project: Calibration-free Multi-view Detection for Retail Store.
- Mentor: Lu Yuan.

Adobe Research, Creative Tech Lab, Seattle September 2016 - December 2016
Research Intern

- Project: Panorama Video Re-cinematography for Virtual Reality Headset.
- Mentor: Oliver Wang.

Microsoft Research Asia, Visual Computing Group, Beijing April 2014 - June 2014
Research Intern

- Project: IMU and Image Fusion for Video Stabilization.
- Mentor: Lu Yuan.

EDUCATION

Simon Fraser University January 2015 - May 2020
School of Computing Science
Ph.D. in Computer Science

Peking University August 2011 - July 2014
School of Electronic and Computer Engnieering
M.S. in Computer Applied Technology

China Agricultural University September 2008 - July 2011
College of Information and Electrical Engineering
B.S. in Computer Science & Technology of Honours Program

PUBLICATIONS

Chengzhou Tang, Yuqiang Yang, Bing Zeng, Ping Tan, Shuaicheng Liu. Learning to Zoom Inside Camera Pipeline. CVPR 2022.

Xiaodong Gu, **Chengzhou Tang**, Zhuozuo Dai, Siyu Zhu, and Ping Tan. Recurrent Closet Point for Point Clouds. CVPR 2022 (Oral Presentation).

Shitao Tang, **Chengzhou Tang**, Rui Huang, Siyu Zhu, and Ping Tan. DSM: Dense Scene Matching for Camera Localization. CVPR 2021.

Chengzhou Tang, Lu Yuan and Ping Tan. LSM: Learning Subspace Minimization for Low-level Vision. CVPR 2020 (Oral presentation, 5% acceptance rate).

Luwei Yang, Ziqian Bai, **Chengzhou Tang**, Honghua Li, Yasutaka Furukawa and Ping Tan. SANet: Scene Agnostic Network for Camera Localization. ICCV 2019.

Chengzhou Tang and Ping Tan. BA-Net: Dense Bundle Adjustment Networks. ICLR 2019 (Oral presentation, 1.7% acceptance rate).

Chengzhou Tang, Oliver Wang, Feng Liu, and Ping Tan. Joint Direction and Stabilization for 360° Videos. TOG (Presented at SIGGRAPH 2019).

Chengzhou Tang, Oliver Wang and Ping Tan. GSLAM: Initialization-robust Monocular Visual SLAM via Global Structure-from-Motion. 3DV 2017.

Zhaopeng Cui, Nianjuan Jiang, **Chengzhou Tang** and Ping Tan. Linear Global Translation Estimation with Feature Tracks. BMVC 2015.

Chengzhou Tang, Ronggang Wang. Local Subspace Video Stabilization. In: IEEE International Conference on Multimedia & Expo, 2014

Chengzhou Tang, Ronggang Wang. Sparse Moving Factorization for Subspace Video Stabilization. In: IEEE International Conference on Acoustics, Speech and Signal, 2014

Chengzhou Tang, Ronggang Wang, Wenmin Wang. Adaptive Motion Estimation Order for Frame Rate Up-conversion. In: IEEE International Symposium on Circuits and Systems, 2013.

PATENTS

Method for motion vector estimation US9584824B2 (Grant)
Low-illumination image processing method and device US20180182074A1(Grant).
Video processing method, device and system US20160112701A1(Grant).
Re-cinematography for spherical video US15619702(Grant).

SERVICES

Reviewers for: **Computer Vision**: CVPR, ECCV, ICCV, WACV; IJCV, TPAMI, MVA. **Machine Learning**: NeurIPS, ICML, ICLR, AAAI. **Graphics**: PG, IEEE VR, VRST; TVCG. **Robotics**: IROS, ICRA; AUTON ROBOT.