CHENGZHOU TANG

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RESEARCH INTERESTS

My research interests include low-&mid-level computer vision problems (Structure-from-Motion, SLAM, Optical Flow etc.), especially on bridiging the gap between deep learning techinques and conventional white-box computer vision models.

FULL-TIME POSITIONS

Apple July 2020 - Current
Machine Learning Engineer

Work on 3D computer vision for maps.

EDUCATION

Simon Fraser University January 2015 - March 2020
School of Computing Science
Ph.D. Candidate 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 Honors Program

PUBLICATIONS

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: 46.1-46.13

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).

RESEARCH INTERNSHIPS

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

· Project: Calibration-free Multi-view Detection.
· Mentor: Lu Yuan.

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

· Project: Panorama Video Re-cinematography.
· Mentor: Oliver Wang.

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

· Project: Inertial measurement sensor and image feature fusion for video stabilization.
· Mentor: Lu Yuan.

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.