CHENGZHOU TANG

https://frobelbest.github.io ◇ chengzhout@gmail.com

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 (black-box) and conventional computer vision models (white-box).

EDUCATION

Simon Fraser University January 2015 - March 30 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)

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).

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(Application).

RESEARCH EXPERIENCE

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.

Simon Fraser University, School of Computer Science January 2015 - Current
Research Assistant

· Project: Visual SLAM.
· Supervisor: Ping Tan.

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.

Peking University, IDM September 2011 - March 2014
Research Assistant

· Project: Subspace based video stabilization; High efficiency video coding; Frame rate up-conversion.
· Advisor: Ronggang Wang

SERVICES

Reviewer for: **Journals/Transactions**: IEEE Transactions on Pattern Recognition and Machine Intelligence (TPAMI), International Journal of Computer Vision (IJCV), IEEE Transactions on Image Processing (TIP), Autonomous Robots (AUTON ROBOT), Machine Vision Applications (MVAP), IEEE Transactions on Multimedia (TMM); **Conferences**: International Conference on Computer Vision (ICCV), IEEE Conference on Computer Vision and Pattern Recognition (CVPR), IEEE International Conference on Intelligent Robots and Systems (IROS), Winter Conference on Applications of Computer Vision(WACV), Pacific Graphics (PG), Pacific Graphics (PG), ACM Symposium on Virtual Reality Software and Technology (VRST), IEEE International Conference on Robotics and Automation (ICRA), IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR), International Conference on Learning Representations (ICLR), Neural Information Processing Systems (NeurIPS), European Conference on Computer Vision (ECCV)

Program Committee: AAAI 2020