

# CHENGZHOU TANG

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## EDUCATION

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**Simon Fraser University**

January 2015 - December 2019 (Expected)

School of Computing Science

Ph.D. Candidate in Computer Science

**Peking University**

August 2011 - July 2014

School of Electronic and Computer Engineering

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

## RESEARCH INTERESTS

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Mid&Low-level computer vision problems (Structure-from-Motion, SLAM, Optical Flow etc.).

Optimization-based model for deep learning.

## PUBLICATIONS

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**Chengzhou Tang** and Ping Tan. Learning Subspace Minimization: An Universal Framework for Low-level Vision. In Submission.

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 (To be 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

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Method for motion vector estimation US9584824B2 (Grant)

Low-illumination image processing method and device US20180182074A1(Application).  
Video processing method, device and system US20160112701A1(Application).  
Re-cinematography for spherical video US15619702(Application).

## RESEARCH EXPERIENCE

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**Microsoft, AI Perception and Mixed-Reality, Redmond** June 2019 - September 2019  
*Research Intern*

- Project: Multi-view Human Pose Estimation.
- 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

**Peking University, IDM** October 2010 - June 2011  
*Research Assistant*

- Project: Head-shoulder based pedestrian detection.
- Advisor: Tiejun Huang

## SERVICES

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**Reviewer for: Journals/Transactions:** International Journal of Computer Vision (IJCV), IEEE Transactions on Image Processing (TIP), Autonomous Robots (AUTON ROBOT), Machine Vision Applications (MVAP); **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)

**Program Committee:** AAAI 2020