

# CHENGZHOU TANG

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## EDUCATION

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**Simon Fraser University** January 2015 - May 2020  
School of Computing Science Burnaby, BC, Canada  
Ph.D. in Computer Science

**Peking University** August 2011 - July 2014  
School of Electronic and Computer Engineering Beijing, China  
M.S. in Computer Applied Technology

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

## FULL-TIME EXPERIENCES

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**Meta** June 2022 - Current  
*Research Scientist* Menlo Park, CA, USA

- Large-scale Multimodal Video Understanding.
- Real-time On-device Stereo Matching.

**Apple** July 2020 - May 2022  
*Machine Learning Engineer* Cupertino, CA, USA

- Feature Detector & Descriptor Learning
- Camera Pose Estimation from IMU.

## PUBLICATIONS

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Xiaodong Gu, Weihao Yuan, Zuozhuo Dai, Siyu Zhu, **Chengzhou Tang**, Zilong Dong, Ping Tan. DRO: Deep Recurrent Optimizer for Video to Depth. RA-L 2023.

**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.

## TEACHING EXPERIENCES

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MACM-101, Discrete mathematics	2015 Summer, SFU
CMPT-165, Introduction to the internet and the world wide web	2016 Summer, SFU
CMPT-128, Introduction to computing science and programming for engineers	2017 Fall, SFU
CMPT-127, Computing laboratory	2018 Summer, SFU

## STUDENT MENTORSHIPS

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**Yuqiang Yang** Januray 2021 - November 2021  
*MSc student at UESTC*

Achievement: Co-first authored publication on CVPR'22.

**Shitao Tang** May 2020 - November 2020  
*MSc student at SFU*

Achievement: First authored publication on CVPR'21.

## RESEARCH INTERNSHIPS

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

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

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

- 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* Beijing, China

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

## PATENTS

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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

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**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.