Yang Tan

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EDUCATION

Ph.D. Data Science and Information Technology, Tsinghua-Berkeley Shenzhen Insitute, Tsinghua University, 2019-2023 (expected)

M.S. Software Engineering, School of Data and Computer Science, Sun Yat-sen University, 2017-2019

B.E. Electronic Engineering, School of Electronic Engineering, Xidian University, 2013-2017

PUBLICATIONS

Journal Articles

2020 **Yang Tan**, Haitian Zheng, Yinheng Zhu, Xiaoyun Yuan, Xing Lin, David Brady and Lu Fang. "CrossNet++: Cross-scale Large-parallax Warping for Reference-based Super-resolution." *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*. doi:10.1109/TPAMI.2020.2997007

Conference Proceedings

2021 **Yang Tan**, Yang Li, Shao-Lun Huang. "OTCE: A Transferability Metric for Cross-Domain Cross-Task Representations." In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), pp. 15779-15788.* **(Oral)** [Link]

2019 **Yang Tan**, Hongxin Lin, Zelin Xiao, Shengyong Ding, Hongyang Chao. "Face recognition from sequential sparse 3d data via deep registration." In *2019 International Conference on Biometrics (ICB), pp. 1-8.* **(Oral)** [Link]

2019 Hongxin Lin, Zelin Xiao, **Yang Tan**, Hongyang Chao, Shengyong Ding. "Justlookup: One millisecond deep feature extraction for point clouds by lookup tables." In *2019 IEEE International Conference on Multimedia and Expo (ICME), pp. 326-331.* **(Oral)** [Link]

RESEARCH EXPERIENCE

2019 - now **Transferability Estimation** advised by Prof. Yang Li and Prof. Shao-lun Huang.

- Transferability reveals how much the source model (task) can benefit the target task.
- We propose a transferability metric named OTCE to predict the transfer performance under the challenging cross-domain cross-task transfer setting.

2018 - 2020 **Reference-based Super-resolution** advised by Prof. Lu Fang.

- Multi-camera system plays a vital role in computational photography.

- We propose an end-to-end framework to fuse multi-scale images under large parallax.

2018 - 2019 **3D Face Recognition** advised by Dr. Shengyong Ding and Prof. Hongyang Chao.

- Portable DoE based structured light system only acquires sparse facial point cloud.
- We propose to fuse a sequence of low-quality facial data to reconstruct a dense point cloud achieving high recognition accuracy.

2017 - 2018 **Clothes Keypoint Detection** advised by Dr. Shengyong Ding.

- We propose a multi-scale multi-task learning method to detect the keypoints of clothes.
- Top 60/2322 in Tianchi FashionAI Competition.

2017 - 2018 **Human Skeleton Detection** advised by Dr. Shengyong Ding.

- We develop a real-time multi-person 2D human skeleton detection system.
- Top 20% in AI Challenger Global Competition.

2016 - 2017 **Monocular Hand Gesture Interactive System** advised by Prof. Jiangmin Sun.

- A real-time hand gesture interactive system based on monocular vision. [Video]
- Outstanding undergraduate thesis of Xidian University.

INNOVATIVE PROJECT

2014-2015 **Courier Assistant** (National Innovation Training Program for College Students).

- An app designed for recognizing the information from the waybill to automatically notify the consignee based on the OCR technology.
- Top 10 of the 3rd Youth Innovation and Entrepreneurship Competition of Shannxi province.
- 3rd prize of National Innovation Training Program for College Students in Xidian University.

VISITING & INTERN

2019.7 - 2019.9 Duke (kunshan) University advised by Prof. David Brady.

- View synthesis.

2017.8 - 2019.4 Pixtalks Tech (Guangzhou) advised by Dr. Shengyong Ding.

- Skeleton detection, structured light system calibration, face recognition.

2016.8 - 2016.12 SharpNow Tech (Shenzhen) advised by Dr. Zhimin Xu.

- Vanishing point detection, collision detection in VR system.

SERVICE

2021 summer Teaching Assistant of *An Introduction to Transfer Learning* by Prof. Yang Li, TBSI.

2020.7 Member of the executive committee of TBSI Workshop on Learning Theory (TBSI-WOLT'20).

2019.12 Member of the executive committee of TBSI Workshop on Data Science (TBSI-WODS'19).

2019.9 Teaching Assistant of Tsinghua Scienvest Program.

TALKS

2021.6 Oral presentation at IEEE International Conference on Computer Vision and Pattern Recognition (CVPR), Virtual. (*OTCE: A transferability metric for cross-domain cross-task representations.*)

2019.6 Oral presentation at IEEE International Conference on Biometrics (ICB), Crete, Greece. (*Face recognition from sequential sparse 3d data via deep registration.*)

2020.7 Oral presentation at TBSI Workshop on Learning Theory (WOLT'20), Shenzhen, China. (*Transferability estimation for image classification tasks.*)

2019.12 Oral presentation at TBSI Workshop on Data Science (WODS'19), Shenzhen, China. (*CrossNet++: Cross-scale large-parallax warping for reference-based super-resolution.*)

HONORS, AWARDS, & SCHOLARSHIPS

2021.11 Friends of Tsinghua - Pinghu Talent Scholarship.

2020.12 First prize scholarship of Tsinghua Shenzhen International Graduate School.

2020.12 Award of Social Inovation Team in Tsinghua SDG Open Hack Competition.

2020.7 Excellent scholarship of TBSI Leaders of Tomorrow.

2017.6 Outstanding undergraduate thesis of Xidian University.

2016.7 3rd prize of National Innovation Training Program for College Students in Xidian University.

2015.12 Advanced individual of the 3rd Youth Innovation and Entrepreneurship Competition of Shannxi province.

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