FENGRUI TIAN 田丰瑞

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PERSONAL STATEMENT

I strongly believe that Artificial Intelligence (AI) technology will deeply change the way that people live and work in the future. My research interests include novel view synthesis and self-supervised learning.

I'm also looking for Ph.D. position in autumn 2024. If you are interested in my background and have some available positions, please let me know.

EDUCATION

School of Artificial Intelligence, Xi'an Jiaotong University Expected 2024
Recommended Postgraduate
M.S., Control Science and Engineering
Supervisor: Prof. Shaoyi Du
GPA: 4.0/4.0

School of Software Engineering, Xi'an Jiaotong University 2017 - 2021
Outstanding Undergraduate Thesis (Top 1%)
B.S., Software Engineering
Supervisor: Prof. Zhiqiang Tian
GPA: 3.6/4.0

EXPERIENCE

Tsinghua University, Shanghai AI Laboratory, SenseTime Group Ltd. Mar. 2022 - Present
Research Intern, Supervisor: Prof. Yueqi Duan and Prof. Jifeng Dai *Beijing*

- Researched 3D dynamic new view synthesis from monocular videos.
- Proposed a generalizable dynamic radiance field from monocular videos called MonoNeRF.
- MonoNeRF reaches the state-of-the-art performance on novel view synthesis and supports several new applications such as novel view synthesis from unseen frames, fast new scene adaption and scene editing.

Megvii Research Apr. 2021 - Jan. 2022
Research Intern *Beijing*

- Research on fine-grained video representation with self-supervised learning (SSL).
- Proposed a video representation learning network called TCVM based on feature differences. It directly captures motion information by frame feature difference.
- Won the Outstanding Intern Award (the only one in the group).

Xi'an Jiaotong University Apr. 2020 - Oct. 2021
Research Assistant, Supervisor: Prof. Zhiqiang Tian *Xi'an, Shaanxi*

- Dedicated to applying deep learning technology in medical image analysis to the real world by combining human interaction and segmentation algorithms.
- Focused on combining radiologists' interaction experience with deep learning models.
- Proposed an interactive segmentation method called Surface-GCN that learns radiologist interaction experience from imitations.

National University of Singapore Sep. 2019
Team Leader *Singapore*

- Organized other three team members to detect potential connections between movies and books with data on Douban website by data mining algorithms.

PUBLICATIONS

[#] Equal contribution, [(✉)] Corresponding author

[1] **Fengrui Tian**, Shaoyi Du, Yueqi Duan[(✉)], MonoNeRF: Learning a Generalizable Dynamic Radiance Field from Monocular Videos, *Under Review*, 2022.

[2] **Fengrui Tian**[#], Jiawei Fan[#], Xie Yu, Shaoyi Du[(✉)], Meina Song, and Yu Zhao, TCVM: Temporal Contrasting Video Montage Framework for Self-supervised Video Representation Learning, *Asian Conference on Computer Vision (**ACCV**)*, pp. 1539-1555. 2022. (**Oral**)

[3] **Fengrui Tian**, Zhiqiang Tian[(✉)], Zhang Chen, Dong Zhang, Shaoyi Du[(✉)], Surface-GCN: Learning Interaction Experience for Organ Segmentation in 3D Medical Images, *Under Review*, 2021.

[4] Chenhong Tian, **Fengrui Tian**, Xiaozhi Du[(✉)], Checkpoint Optimization Approach with Application Multiple-state for Real-time Embedded System, *Technical Report*, 2020.

PROJECTS

Books2Movies. Analyzed the relationship between 105 user groups and 8 different types of books and the relationship between 117 movies and different groups of users and then established the connection "books-users-movies" based on those 2 relationships. This work was done when **Fengrui Tian** attended the summer program at the School of Computing, National University of Singapore. (Try it here: https://tianfr.github.io/Books2Movies/)

AWARDS

- Special Scholarship (**Top 10%**), Xi'an Jiaotong University 2022
- Outstanding Undergraduate Thesis (**Top 1%**), Xi'an Jiaotong University 2021
- Third Prize Scholarship (**Top 25%**), Xi'an Jiaotong University 2019, 2020
- Bronze medal in China College Computing Contest Group (CCCC) Programming Ladder Tournament 2019.4

SKILLS AND OTHERS

MMCV issue #2309, bug P1 report: https://github.com/open-mmlab/mmcv/issues/2309
Language: Chinese (mother tongue), English (TOEFL 92, CET-6 546)