

FENGRUI TIAN 田丰瑞

Master Student, School of Artificial Intelligence, Xi'an Jiaotong University

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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 a 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: 3.56/4.0

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, Best Paper Award Honorable Mention**)
- [3] **Fengrui Tian**, Zhiqiang Tian(✉), Zhang Chen, Dong Zhang, Shaoyi Du(✉), Surface-GCN: Learning Interaction Experience for Organ Segmentation in 3D Medical Images, *Medical Physics* (preprint, IF:4.071), 2023.
- [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

- **ACCV Best Paper Award Honorable Mention (2/278)** 2022
- 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)