

Ruru Xu

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[Academic webpage](#)
[Google scholar page](#)

PROFILE

I am a PhD student at Istanbul Technical University, Computer Engineering, where I have studied since 2021. I work as a researcher in the 2232 International Fellowship for Outstanding Researchers Program of TUBITAK(Project No: 118C353) and the ITU BAP research funds (Project ID: 47296). My research focuses on MRI reconstruction using deep learning and reinforcement learning methods. My professor is Ilkay Oksuz.

From 2018 to 2020, I was an exchange student at the Lab of Interactive Media Computing at Fudan University. During this time, I was working on projects related to autonomous driving, which involved object detection, pedestrian recognition, Instance segmentation, path planning, etc., working under the guidance of Professor Cheng Jin.

From 2017 to 2020, I pursued my Master's studies at the SICT(Shanghai Institute of Computing Technology), with a research direction in computer vision. My professor is Xinli Min.

From 2017 to 2020, I interned at Shanghai Shen Teng Technology Co., Ltd. . My work there involved contributing to smart city-related projects.

In 2016, I earned my Bachelor's degree in Computer Science and Technology.

EDUCATION and RESEARCH EXPERIENCE

PhD Candidate, GPA: 3.43,
Computer Engineering
Istanbul Technical University, Istanbul, Turkey **March 2021-present**

Exchange learning,
Lab of Interactive Media Computing
Fudan University, Shanghai, China **April 2018-March 2020**

Master's Degree, GPA: 3.78,
Engineering Computer Software and Theory
Shanghai Institute of Computing Technology(SICT), Shanghai, China
Thesis: Research and Implementation of Intelligent Evaluation Algorithm of Street Cleanli-

ness Based on Vision Online

Bachelor's degree,
Computer Science and Technology
Liaocheng University, Liaocheng, China

September 2012-July 2016

Work Experience

Student Intern, **September 2017-March 2020**
R&D department
Shanghai Shen Teng Technology Co., Ltd., Shanghai, China
Working on smart city related projects

PUBLICATIONS

Journal Papers:

- **Xu R**, K Anvari Hamedani, Yang Z, Oksuz I. "Hierarchical K-Space sampling with Mamba-based Reinforcement Learning for Efficient MRI Diagnosis." Expert Systems With Applications [Q1; IF:7.5, Under Review]Online
- **Xu R**, Oksuz I. "Undersampled K-Space Information Recovery with Long-Range Temporal Memory for Multi-Coil MRI Reconstruction." Computer Methods and Programs in Biomedicine [Q1; IF:4.8, Under Review]
- **Xu R**, Oksuz I. "Optimized K-Space Under-sampling for Brain MRI Reconstruction with Reinforcement Learning." Pattern Recognition Letters (Q1; IF:3.3) [2nd revision Under Review]
- Wang F, ...etc..**Xu R**, Oksuz I...etc.., Towards Modality- and Sampling-Universal Learning Strategies for Accelerating Cardiovascular Imaging: Summary of the CM-RxRecon2024 Challenge. (**Top Journal: TMI; IF:9.8**) Online
- **Xu R**, Oksuz I. A Reinforcement Learning Approach for Optimized MRI Sampling with Region-Specific Fidelity. Neurocomputing (Q1, IF: 6.5), 2025. **Online Code**
- **Xu R**, Oksuz I. Segmentation-aware MRI subsampling for efficient cardiac MRI reconstruction with reinforcement learning. Image And Vision Computing (Q1, IF: 4.2), 2024. **Online**

Conference Papers:

- **Xu R**, Oksuz I. "HierAdaptMR: Cross-Center Cardiac MRI Reconstruction with Hierarchical Feature Adapters" (MICCAI2025 CMRxRecon2025 Workshop) **Online Code**
- **Xu R**, Oksuz I. "Adaptive k-space Radial Sampling for Cardiac MRI with Reinforcement Learning" (MICCAI2025 STACOM Workshop) **Online Code Presentation**

- **Xu R**, Özer C, Oksuz I. HyperCMR: Enhanced Multi-Contrast CMR Reconstruction with Eagle Loss. (MICCAI2024 CMRxRecon2024 Workshop). **Online Code Presentation**
- **Xu R**, Oksuz I. Efficient MRI reconstruction with reinforcement learning for automatic acquisition stopping. (MICCAI2022 STACOM Workshop). **Online Presentation**
- **Xu R**, An J, Su L, Min X. Banknotes serial number coding recognition.” In 2019 IEEE International Conference on Big Data (Big Data), pp. 5101-5107. IEEE, 2019. **Online**

HONORS and AWARDS

4th Place Award

Brazil, February 2026

Special Task 2: CMR reconstruction model for pediatric imaging evaluation, CMRxRecon2025 Challenge (MICCAI) **Certification**

5th Place Award

Brazil, February 2026

Special Task 1: CMR reconstruction model for 5T evaluation, CMRxRecon2025 Challenge (MICCAI) **Certification**

3rd Place Award

South Korea, September 2025

Regular Task 2: CMR reconstruction model for multiple diseases evaluation. CMRxRecon2025 Challenge (MICCAI). **Certification**

5th Place Award

South Korea, September 2025

Regular Task 1: CMR reconstruction model for multi-center evaluation. CMRxRecon2025 Challenge (MICCAI). **Certification**

5th Place Award

October 2024

CMRxRecon2024 Challenge (MICCAI)2024, Morocco. **Certification**

Full Ph.D. Scholarship,

March 2021-present

Istanbul Technical University, Istanbul, Turkey

Third-Class Prize

May 2018

China National Mathematical Contest in Modeling for Graduate Students. Officially recorded on Master’s degree transcript

TOEFL score

- Score: 108 · Jan 2021, Reading:28, Listening:26, Speaking:24, Writing:30

REFERENCES

- Ilkay Oksuz
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Research Associate, King's College London, Biomedical Engineering Department
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- Cheng Jin
School of Computer Science, Shanghai Key Lab of Intelligent Information Processing,
Fudan University, Shanghai, China
Innovation Center of Calligraphy and Painting Creation Technology, MCT, China,
Fudan University, Shanghai, China
E-mail: jc@fudan.edu.cn
- Xinli Min
Shanghai Energy saving Engineering and Technology Association (SESETA)
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