# 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*, **March 2021-present**
Computer Engineering
**Istanbul Technical University, Istanbul, Turkey**

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

*Master's Degree, GPA: 3.78*, **September 2017-March 2020**
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*, **September 2012-July 2016**
Computer Science and Technology
**Liaocheng University, Liaocheng, China**

## 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**, Oksuz I. "Undersampled K-Space Information Recovery with Long-Range Temporal Memory for Multi-Coil MRI Reconstruction." [Top journal: MIA, IF: 11.8, Under Review]
- **Xu R**, Oksuz I. "Optimized K-Space Under-sampling for Brain MRI Reconstruction with Reinforcement Learning." Pattern Recognition Letters (Q1; IF:3.9) [Under Review, Revise stage]
- Wang F, ...etc..**Xu R**, Oksuz I...etc.., Towards Universal Learning-based Model for Cardiac Image Reconstruction: Summary of the CMRxRecon2024 Challenge. (Top Journal: TMI; IF:9.8) [Under Review, Revise stage] **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

Top 5 teams on leaderboard in CMRxRecon2025 Two Special Tasks, Final rank will be announced at the SCMR 2026, Brazil. Our Abstract paper has been accepted for an in-person presentation **February 2026**

*5th Place Award*, Regular Task 1: CMR reconstruction model for multi-center evaluation. CMRxRecon2025 Challenge (MICCAI)2025, South Korea **September 2025**
**Certification**

*3rd Place Award*, Regular Task 2: CMR reconstruction model for multiple diseases evaluation. CMRxRecon2025 Challenge (MICCAI)2025, South Korea **September 2025**
**Certification**

*5th Place Award*, CMRxRecon2024 Challenge (MICCAI)2024, Morocco **October 2024**
**Certification**

*Full Ph.D. Scholarship*, **March 2021-present**
Istanbul Technical University, Istanbul, Turkey

## TOEFL score

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

## REFERENCES

- Ilkay Oksuz
  Assoc. Prof., Istanbul Technical University, Computer Engineering Department
  Research Associate, King's College London, Biomedical Engineering Department
  E-mail: oksuzilkay@itu.edu.tr
- 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,

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- Xinli Min
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