

# Ruru Xu

*Citizenship: Chinese*

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[Personal webpage](#)

[Google scholar page](#)

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## 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, 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 Cleanliness 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. “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: Nature Machine Intelligence; IF:23.9) Under Review **Online**
- **Xu R**, Oksuz I. A Reinforcement Learning Approach for Optimized MRI Sampling with Region-Specific Fidelity. Neurocomputing (Q1, IF: 5.5), 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” (MICCAI 2025 CMRxRecon Challenge paper) **Online Code**
- **Xu R**, Oksuz I. “Adaptive k-space Radial Sampling for Cardiac MRI with Reinforcement Learning” (MICCAI 2025 STACOM Workshop) **Online Code**
- **Xu R**, Özer C, Oksuz I. HyperCMR: Enhanced Multi-Contrast CMR Reconstruction with Eagle Loss. (MICCAI 2024 CMRxRecon Challenge paper). **Online Code Presentation**
- **Xu R**, Oksuz I. Efficient MRI reconstruction with reinforcement learning for automatic acquisition stopping. (MICCAI 2022, 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

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

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

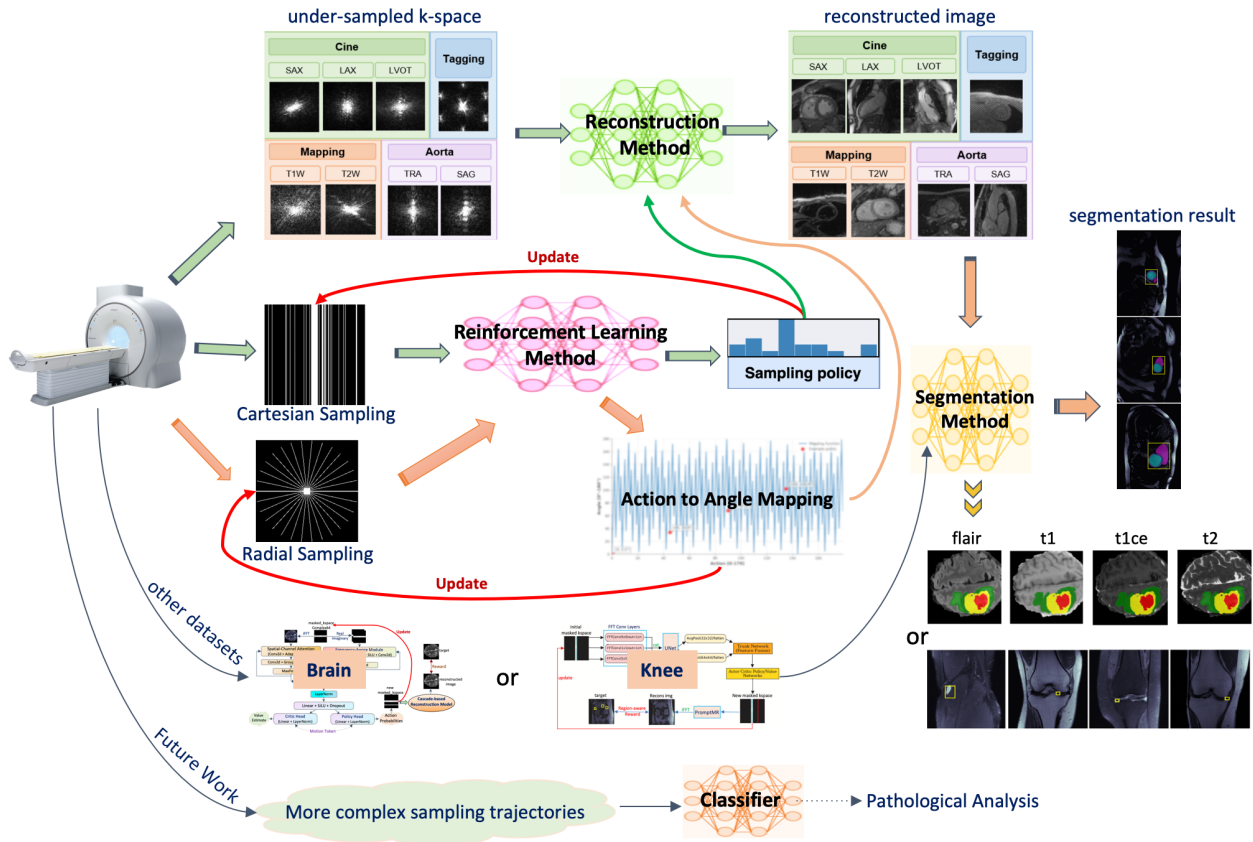
## TOEFL score

- 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,  
Fudan University, Shanghai, China  
E-mail: jc@fudan.edu.cn
- Xinli Min  
Shanghai Energy saving Engineering and Technology Association (SESETA)  
Shanghai Shen Teng Technology Co., Ltd.  
E-mail: mizhui@sina.com

## PhD Research Topic



## Timeline:

March 2021–June 2022, completed all courses, GPA: 3.43

(Artificial Intelligence, Machine Learning, Medical Image Computing, Deep Learning, Image Processing, Special Topics in Compu.Eng., Scien.Res., Ethic&Seminar, Guided Research)

–May 2023, Successfully passed the Doctoral Qualification Examination, became PhD Candidate

(Undergraduate Courses — Digital Circuits, Formal Languages, Automata Computer Architecture, Microprocessor Systems, Data Structures Analysis of Algorithms, Operating Systems)

Graduate Courses — Probability Theory and Stochastic Processes, Pattern Recognition, Graph Theory and Algorithms, Deep Reinforcement Learning, Machine learning, Medical Image Computing

Oral Exam — basic engineering education (mathematics, probability, programming, algorithm design, hardware components, etc.))

January 18, 2024, Passed the PhD thesis proposal defense

August 2, 2024, Passed the PhD thesis 1st Report defense (Two papers:

The first paper was accepted by MICCAI 2022, Workshop

The second paper was accepted by journal Image and Vision Computing(Q1, IF: 4.2))

January 16, 2025, Passed the PhD thesis 2nd Report defense (Three papers + One MICCAI Challenge Award:

The first paper was accepted by MICCAI 2024, workshop

The second paper was accepted by journal Neurocomputing(Q1, IF: 5.5)

The third paper was submitted to Top Journal: Nature Machine Intelligence; IF:23.9, under review

5th Place Award in MICCAI 2024 Reconstruction Challenge)

July 9, 2025, Passed the PhD thesis 3rd Report defense (Three papers + Two MICCAI Challenges:

Two papers was accepted by MICCAI 2025, workshop

The third paper was submitted to journal Pattern Recognition Letters (Q1; IF:3.9) [Under Review, Revise stage]

One of the top five teams on the leaderboard in MICCAI 2025 two Reconstruction Challenges)

Now: working on TMI journal paper work.

## **Looking for Postdoctoral Position**

I will graduate in December 2025. Looking for a postdoctoral position for the spring 2026 semester in the US.