

# Ruiyi Fang

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## EDUCATION

### • Central South University

*Master of Engineering in Electronic Information*

Changsha, China

Sep.2022 - Jun.2025

**Master's thesis:** Domain Adversarial Based Network for Industrial Few-sample Fault Detection

GPA: **3.82/4.0**    **Advisor:** Kai Wang

### • Chang'an University

*Bachelor of Engineering in Automation*

Xi'an, China

Sep.2018 - Jun.2022

**Bachelor's thesis:** Domain Adversarial Neural Network for Industrial Fault Detection

GPA: **3.57/5.0**    Rank: 10%

## PUBLICATIONS

### • Domain Adversarial Network for Dynamic Few-sample Industrial Fault Detection

Ruiyi Fang, Kai Wang\*, Xiaofeng Yuan and Yalin Wang

*Knowledge-Based Systems (KBS)*, Under review

### • Unsupervised Domain Adversarial Network for Few-sample Fault Detection in Industrial Processes

Ruiyi Fang, Kai Wang\*, Jing Li, Xiaofeng Yuan and Yalin Wang

*Advanced Engineering Informatics (AEI)*, Accepted

### • Wasserstein Distance Based Domain Adversarial Autoencoder for Industrial Few-sample Fault Detection

Ruiyi Fang, Kai Wang\*, Xiaofeng Yuan, Yalin Wang, and Chunhua Yang

*Asian Control Conference (ASCC)*, Jul. 2024 (Oral)

## RESEARCH EXPERIENCE

### • Deep learning fault detection method based on spatio-temporally industrial data

Jan.2024 - Present

– Research in the applications of transfer learning, particularly adversarial-based neural network, and self-attention mechanism, for fault detection in industrial dynamic process with few data samples.

### • Data-driven process monitoring for the process industries

Jan.2022 - Dec.2023

– Research in the theory of unsupervised data-driven methods, transfer learning, few sample, and imbalance training problem.

## AWARDS & HONORS

### • Post-graduate First-Class Scholarship

2022,2023

### • Academic Excellence Scholarship

2018,2021

### • Summer Exchange at Kyoto University, Japan.

2023

### • Summer Exchange at Universiti Teknologi MARA (UiTM), Malaysia.

2020

### • “HUAWEI CUP” China Post-graduate Mathematical Contest In Modeling Second Prize(Leader)

2023

### • “HUAWEI CUP” China Post-graduate Mathematical Contest In Modeling Third Prize

2022

### • Interdisciplinary Contest in Modeling (ICM) Honorable Mention(Leader)

2021

### • National Mathematics Competition for College Students Third Prize

2021

### • National English Competition for College Students Third Prize

2021

### • National English Translation Competition for College Students First Prize(1%)

2020

### • Contemporary Undergraduate Mathematical Contest in Modeling Second Prize(Leader)

2020

## SKILLS

### Programming Skills:

Advanced: Python, PyTorch

Intermediate: Matlab, C, L<sup>A</sup>T<sub>E</sub>X

Basic: HTML/CSS

**Robotic Simulation & Control Platforms:** ROS, Coppeliasim

## LANGUAGE

**Mandarin** (Native), **English** (TOEFL 99/120), **Japanese** (JLPT N1)

## ACADEMIC SERVICES

### • Reviewer for Conferences

- Asian Control Conference (ASCC), 2024