

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)

• 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 imbalanced 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^AT_EX

Basic: HTML/CSS, Git

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