Ruiyi Fang

⌂ Homepage: https://raelynfang.github.io/   GitHub LinkedIn

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EDUCATION

- **Central South University**   Changsha, China

  Master of Engineering in Electronic Information   *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**   Xi'an, China

  Bachelor of Engineering in Automation   *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

  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), Resubmitted

- **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*

  National Natural Science Foundation of China

  – Research in the application of adversarial-based neural network and self-attention mechanism in industrial dynamic process fault detection under few-sample scenarios.

- **Data-driven process monitoring for the process industries**   *Jan.2022 - Dec.2024*

  Hunan Provincial Natural Science Foundation Outstanding Youth Program

  – Research in unsupervised data-driven methods and imbalance training problem in adversarial training for industrial fault detection.

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 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, LaTeX

    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