



Rui He

PHD CANDIDATE IN MACHINE LEARNING · UoB & SUSTech

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Personal Profile

A highly motivated **PhD candidate** jointly enrolled at the University of Birmingham and Southern University of Science and Technology (SUSTech). Solid academic foundation in **Computer Science** and **Physics** with research endeavors primarily concentrated on **machine learning**, specifically in **active learning** and **multi-domain learning**. Inspired by the swift progress in AI and its tangible applications, seeking a demanding role that capitalizes on AI's potential to confront and solve critical real-world issues.

Education

University of Birmingham (UoB)

Birmingham, UK

PH.D. IN COMPUTER SCIENCE AND ENGINEERING (SUSTECH JOINT PROGRAM)

Sep. 2018 - Dec. 2023 (Expected)

- Research Fields: *Active Learning*, *Multi-Domain Learning*, *Transfer Learning*, etc.
- Thesis title: Multi-Domain Active Learning
- Crucial growth: Problem-Driven Thinking

Temple University

Philadelphia, USA

SEMESTER EXCHANGE PROGRAM GPA:3.93/4

Aug. 2016 - Dec. 2016

- Courses: Problem Solving and Programming with Python, Computing for Scientists, Atomic Nuclear & Partical Physics, etc.
- Crucial growth: Overcoming the fear of the unfamiliar

Southern University of Science and Technology (SUSTech)

Shenzhen, China

B.Sc. IN PHYSICS GPA:3.65/4

Sep. 2014 - July 2018

- Thesis title: Research on Reactivity of the Surface of Bi_2Se_3 with O_2 and H_2O
- Outstanding Graduate in Shuren College
- Crucial growth: Strong ability to learn independently and quickly

Publication

- 2022 **Multi-Domain Active Learning: Literature Review and Comparative Study**, IEEE Transactions on Emerging Topics in Computational Intelligence (TETCI)
- 2023 **Multi-Domain Learning From Insufficient Annotations**, (Submitted to ECAI 2023)

Skills

Core Competence	Problem-Oriented Thinking, Information-Centric Decision Making, Result-Oriented Mindset
Programming	Python (PyTorch, Numpy, Matplotlib, Scikit-learn, etc.), Java, LaTeX
Large AI Models	ChatGPT, OpenAI API
Development	Hexo (static website generator), Git, Nginx + Tencent Cloud (web page deployment)
Language	Chinese (native language), English (business communication)

Work Experience

Southern University of Science and Technology

Shenzhen, China

INTELLIGENT DATA ANALYSIS - POSTGRADUATE TEACHING ASSISTANT (SPRING SEMESTER EACH YEAR)

Jan. 2020 - PRESENT

- Responsible for the preparation and teaching of Intelligent Data Analysis labs for graduate students.
- Key personal growth: In depth teaching skills, the ability to connect knowledge.

Southern University of Science and Technology

Shenzhen, China

ARTIFICIAL INTELLIGENCE - POSTGRADUATE TEACHING ASSISTANT (FALL SEMESTER EACH YEAR)

Sep. 2019 - Jan. 2022

- Responsible for tutoring artificial intelligence labs for undergraduate students.
- Teach laboratory classes remotely to international students.
- Key personal growth: Remote consistent communication and support.

University of Birmingham

Birmingham, UK

POSTGRADUATE TEACHING ASSISTANT

Oct. 2018 - June 2019

- Demonstration of *Software Workshop (Java)* tutorials and correction of assignments for graduate students.
- Responsible for project guidance and assignment correction for undergraduate *Data Structures and Algorithms* course.
- Key personal growth: Demonstration skills in English, public presentation.

Project

Awesome Active Learning

[Github Open-Source Repository](#)

FOUNDER & WRITER

Feb. 2020 - PRESENT

- Everything about Active Learning (AL) research. Not only a curated list, but also a well-structured knowledge library.

Multi-Domain Active Learning: a Pipeline

[Github Open-Source Repository](#)

FOUNDER & DEVELOPER

Jan. 2022 - Dec. 2022

- A general pipeline for multi-domain active learning (MDAL).