



# 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 SUSTech, with a strong focus on **machine learning**, specifically **active learning** and **multi-domain learning**. Excited about the progress of artificial intelligence and its practical applications. Actively pursuing a challenging position that leverages machine learning techniques to tackle real-world challenges.

## Education

### University of Birmingham (UoB)

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

*Birmingham, UK*

*Sep. 2018 - Dec. 2023 (Expected)*

- Research Fields: *Active Learning, Multi-Domain Learning, Transfer Learning*, etc.
- Thesis title: Multi-Domain Active Learning

### Temple University

SEMESTER EXCHANGE PROGRAM GPA:3.93/4

*Philadelphia, USA*

*Aug. 2016 - Dec. 2016*

- Courses: Problem Solving and Programming with Python, Computing for Scientists, Atomic Nuclear & Partical Physics, etc.

### Southern University of Science and Technology (SUSTech)

B.S. IN PHYSICS GPA:3.65/4

*Shenzhen, China*

*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

## Work Experience

### Southern University of Science and Technology

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

*Shenzhen, China*

*Jan. 2020 - PRESENT*

- Responsible for the preparation and teaching of Intelligent Data Analysis labs for graduate students.

### Southern University of Science and Technology

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

*Shenzhen, China*

*Sep. 2019 - Jan. 2022*

- Responsible for tutoring undergraduate artificial intelligence labs.
- Teach laboratory classes remotely to international students.

### University of Birmingham

POSTGRADUATE TEACHING ASSISTANT

*Birmingham, UK*

*Oct. 2018 - June 2019*

- Demonstration of *Software Workshop (Java)* tutorials and correction of assignments for graduate student.
- Responsible for project guidance and assignment correction for undergraduate *Data Structures and Algorithms* course.

## Publication

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

## Skills

- Programming** Python (PyTorch, Numpy, Matplotlib, Scikit-learn, etc.), Java, LaTeX
- Development** Hexo (static website generator), Git, Nginx + Tencent Cloud (web page deployment)
- Language** Chinese (native language), English (business communication)

## Project

### Awesome Active Learning

FOUNDER & WRITER

*Github Open-Source Repository*

*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

FOUNDER & DEVELOPER

*Github Open-Source Repository*

*Jan. 2022 - Dec. 2022*

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