Huaxi Huang

BASIC INFORMATION

Gender: Male
Add: Corner Vimiera & Pembroke Rd, Marsfield NSW 2122, Australia
E-mail: Huaxi.Huang@csiro.au

EDUCATION

University of Technology Sydney **Apr. 2022**
- Ph.D. in Data Analytics

NIT, Zhejiang University **Mar. 2017 - Feb. 2018**
- Visiting Research Student

Tianjin University **Jan. 2017**
- Master of Engineering, Major in Computer Science

Tianjin University **Jul. 2014**
- Bachelor of Engineering, Major in Software Engineering

WORKING EXPERIENCE

Data61, Commonwealth Scientific and Industrial Research Organisation
Mar. 2022 - Present
- Postdoctoral Research Fellow

University of Technology Sydney **July. 2021 - Jan. 2022**
- Research Assistant

RESEARCH EXPERIENCE

ICV Group (Data61, CSIRO) and the Sydney AI Centre (USYD)
Mar. 2022 - Present
- **Supervisor:** Professor Dadong Wang, Professor Tongliang Liu
- **Research Area:** Machine Learning, Computer Vision, Privacy Preservation on Image Data,

Lab of Multimedia and Data Analytics (University of Technology Sydney)
Mar. 2018 - Feb.2022
- **Supervisor:** Professor Jian Zhang, Associate Professor Qiang Wu
- **Research Area:** Few Shot Learning, Fine-grained Classification, Railway Infrastructure Defects Recognition

Lab of Intelligent Information Technology and Intelligent System (Ningbo Insitute of Technology, Zhejiang University)
Mar. 2017 - Feb. 2018

- **Advisor:** Professor Chao Hu
- **Research Area:** Defects Detection, Image Processing

Lab of Machine learning and Data Mining (Tianjin University)
Sept. 2014 - Jan. 2017

- **Supervisor:** Professor Qinghua Hu, Changqing Zhang
- **Research Area:** Active Learning, Multi-view Learning.

INDUSTRY PROJECT

Autonomous Grading of Dynamic Blood Vessel Markers in the Eye using Deep Learning
July. 2021 - Jan. 2022

- Retina-video dataset construction from the raw videos.
- Designed a deep learning based retina video classification framework.

Rail Infrastructure Defect Detection Through Video Analytics (UTS-RMCRC-Sydney Trains)
Apr. 2018 - Apr. 2021

- Collected, labeled, and established a railway infrastructure defects dataset.
- Designed an automated image/video railway infrastructure defects recognition framework using computer vision and deep learning technologies.
- Designed four deep learning algorithms to solve the limited labeled problem in dealing with railway infrastructure defects recognition task.

Mobile Phone Workpiece Surface Defects Detection
Mar. 2017 - Feb. 2018

- Collected, annotated, and set up a mobile phone defects dataset.
- Designed and implemented two automatic machine-vision based methods for mobile phone workpiece surface defects detection.

PUBLICATIONS

- **Huaxi Huang**, Junjie Zhang, Jian Zhang, Qiang Wu, Chang Xu. "PTN: A Poisson Transfer Network for Semi-supervised Few-shot Learning", 35th AAAI Conference on Artificial Intelligence (**AAAI**), 2021, pp.1602-1609. (**CORE A***).
  https://ojs.aaai.org/index.php/AAAI/article/view/16252
- **Huaxi Huang**, Junjie Zhang, Jian Zhang, Qiang Wu, Chang Xu."TOAN: Target-Oriented Alignment Network for Fine-Grained Image Categorization with Few Labeled Samples." IEEE Transactions on Circuits and System for Video Technology (**TCSVT**), 2021.(**JCR Q1**).
  doi:10.1109/TCSVT.2021.3065693.
- **Huaxi Huang**, Junjie Zhang, Jian Zhang, Jingsong Xu, Qiang Wu. "Low-Rank Pairwise Alignment Bilinear Network For Few-Shot Fine-Grained Image Classification." IEEE Transactions on Multimedia (**TMM**), 2021, vol: 23, pp: 1666-1680. (**CORE A***).
  doi:10.1109/TMM.2020.3001510.

- **Huaxi Huang**, J. Zhang, J. Zhang, Q. Wu and J. Xu, "Compare More Nuanced: Pairwise Alignment Bilinear Network for Few-Shot Fine-Grained Learning," IEEE International Conference on Multimedia and Expo (**ICME Oral**), Shanghai, China, 2019, pp. 91-96. (**CORE A**). doi:10.1109/ICME.2019.00024.
- **Huaxi Huang**, Jingsong Xu, Jian Zhang, Qiang Wu, et al. "Railway Infrastructure Defects Recognition using Fine-grained Deep Convolutional Neural Network." IEEE International Conference on Digital Image Computing: Techniques and Application (**DICTA**), 2018, pp 1-8. DOI: 10.1109/DICTA.2018.8615868
- **Huaxi Huang**, Chao Hu, et al. "Surface Defects Detection for Mobilephone Panel workpieces based on Machine Vision and Machine Learning." IEEE International Conference on Information and Automation (**ICIA**), 2017, pp. 370-375.
  DOI: 10.1109/ICInfA.2017.8078936
- **Huaxi Huang**, Changqing Zhang, Qinghua Hu, Pengfei Zhu. "Multi-View Representative and Informative induced Active Learning." Pacific Rim International Conference on Artificial Intelligence (**PRICAI**), 2016, pp. 139-151. (**CORE B**).
  DOI: 10.1007/978-3-319-42911-3_12

AWARDS

- 04/2021-10/2021 UTS President's Scholarship, UTS.
- 09/2019 UTS HDR Collaboration Grant, UTS.
- 04/2018-04/2021 Higher Degree by Research Industry Scholarship, University of Technology Sydney
- 04/2018-10/2021 UTS International Research Scholarship, University of Technology Sydney.
- 01/2017 Outstanding Graduates of Tianjin University
- 12/2015 Merit Student of Tianjin University

SERVICE

- Meta-Reviewer of MMSP22. Reviewer of IEEE T-PAMI, IEEE T-MM, IEEE T-CSVT, Machine Learning Journal, WWWJ, PRL, IET Computer Vision, ICLR, ACM MM, ICME, ACML, ICASSP, VCIP.