

## EDUCATION

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### Harbin Engineering University (Double First-Class & Project 211)

Harbin, China

*Bachelor of Engineering* in Computer Science and Technology (Information Security)

09/2020-07/2024

- GPA: 87.26%
- First-Class Scholarship (2021), Second-Class Scholarship (2022), Third-Class Scholarship (2022&2023)
- Notable Courses: Artificial Intelligence, Linear Algebra and Analytic Geometry, Engineering Mathematical Analysis, Computer Network, Confidential Information System Management, ACM Programming

## RESEARCH EXPERIENCE

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### Adaptive Weighted Multi-View Evidential Clustering With Feature Preference

07/2022-present

Supervisor: Zhe Liu, PhD candidate of Universiti Putra Malaysia

- Extended the WMVEC by taking the feature preference into consideration
- On top of WMVEC, a series of experiments had been augmented which indicated that WMVEC-FP outperformed SOTA and hopefully presented on the top meeting (ICDE 2024, AAAI 2024, IJCAI 2024).

### Real-time Flow Prediction and Scheduling system for Nucleic Acid Detection, National Innovation and Entrepreneurship Training Project for University

04/2022-03/2023

Position: Project Leader

- Organized team members to conduct field research and literature review
- Completed a paper "Short-term people flow prediction for key venues based on VMD-GRU model" and presented on 2023 IEEE 2nd International Conference on Electrical Engineering, Big Data and Algorithms (EEBDA 2023)
- Developed a complete system using React-Native, Java, MySQL, Flask, YOLO-V5 and the proposed VMD-GRU technology; Completed white box test and black box test on campus
- Published software: Real-time Flow Prediction and Scheduling system (Register no.: 2023SR0010537)

### Summer Workshop: Unmanned Ground Vehicle and 3D Reconstruction

07/2022-08/2022

Supervisor: Professor Liang Guo, Vice President, Institute of Data Science, Shandong University

- Used Arduino, road segmentation and patrol technology to achieve unmanned driving
- Generated the digital twin model of the Qingdao Catholic Church by collecting image data using UAV, and the corresponding depth map is generated according to the sequence of image data processing by camera pose and constructed MVSNet for reasoning and fusion
- Won the "Excellent" and first prize scholarship (1000 yuan) based on the written test and project results.

### Adaptive Weighted Multi-View Evidential Clustering

Supervisor: Zhe Liu, PhD candidate of Universiti Putra Malaysia

07/2022- 04/2023

- Proposed multi-view evidence clustering framework in the multi-view scene for the first time, achieving better universality and effectiveness, and further description of the inaccuracy on the basis of fuzzy division
- Responsible for the simulation experiments by comparing 10 methods
- Completed the experimental part of paper writing

**A belief logarithmic similarity measure based on Dempster-Shafer theory and its application in multi-source data fusion** 12/2022- 02/2023

- Proposed an identification framework to deal with information conflicts in multi-source information fusion and improved the accuracy of decision making
- Responsible for all simulation experiments and paper writing
- Submitted to *Journal of Intelligent & Fuzzy System*

**Short-term wind speed forecasting model based on an attention-gated recurrent neural network and error correction strategy** 03/2022- 01/2023

- Proposed a combination model and error compensation strategy to predict the nonlinear and unsteady wind speed series
- Responsible for all simulation experiments and paper writing
- Submitted to *Computers and Electrical Engineering*

**Fluorescence Image Denoising Based on Self-supervised Deep Learning** 03/2022- 09/2022

- preprocessed medical image data set and compared the segmentation results of traditional machine learning image processing algorithm and deep learning U-net algorithm on medical fluorescence images
- Responsible for the traditional machine learning algorithms experiments and paper writing
- Presented on 2022 7th International Conference on Intelligent Computing and Signal Processing (ICSP)

**An efficient method to classification with missing data** 07/2021- 09/2021

- Proposed an algorithm to classify data sets with missing values
- Completed simulation experiments and paper writing
- Published in *Academic Journal of Computing & Information Science*

**Improvement of the design of snowbot** 03/2021- 02/2022

- Improved the appearance of snowbot and enhanced its function with computer vision technology
- Obtained a Utility Model Patent

## **WORKING PAPERS & PUBLICATIONS**

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*Accepted:*

**Huang, H.**, Liu, Y. and Li, Y. (2022) Fluorescence Image Denoising Based on Self-supervised Deep Learning, 2022 7th International Conference on Intelligent Computing and Signal Processing .  
doi: 10.1109/ICSP54964.2022.9778765.

**Huang, H.** (2021) An efficient method to classification with missing data, *Academic Journal of Computing & Information Science*. ISSN 2616-5775 Vol. 4, Issue 8: 63-66.

**Huang, H.**, Yin, W., Qin, C., Peng, W., Huang, Z., Liu, G. and Mo, H. Short-term people flow prediction for key venues based on VMD-GRU model. 2023 IEEE 2nd International Conference on Electrical Engineering, Big Data and Algorithms (EEBDA 2023) Changchun, China.

*Submitted:*

Liu, Z. and **Huang, H.**, Adaptive Weighted Multi-View Evidential Clustering With Feature Preference. ICANN-2023.

**Huang, H.**, Liu, Z., Yang, X., Han, X. and Liu, L., A belief logarithmic similarity measure based on Dempster-Shafer theory and its application in multi-source data fusion. *Journal of Intelligent & Fuzzy System*.

**Huang, H.**, Chen, X. and He, Y. (Co-first author) Short-term wind speed forecasting model based on an attention-gated recurrent neural network and error correction strategy. *Computers and Electrical Engineering*.

## PROJECTS

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### QT Secure Instant Communication System

11/2022- 12/2022

- Developed of a secure instant communication system that supports multi-user group chat, private chat, sending multimedia data and can realize the synchronization of security encryption and communication protocol
- Awarded "Excellent" in the module "Data Security" with the above research work

### QT Car Host Computer Development

01/2021- 05/2021

- Led the team to developed a host computer supporting TCP communication and serial communication with STM-32 based on QT Creator
- Created user-friendly graphical interface, which facilitated the robot competition in the university and was rated as the best control software, helping the team win the champion

## PATENT AND COPYRIGHT

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Certificate of Utility Model Patent:

An Unmanned Snowbot, Independent Invention (Application no.: CN202121512613)

Software Copyright:

Real-time Flow Prediction and Scheduling system, First Author (Register no.: 2023SR0010537)

## TECHNICAL SKILLS

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**Programming Languages:** Python, Java, C/C++, JavaScript, CSS, HTML, MATLAB

**Development Platforms:** Linux (Ubuntu 22.04, CentOS 7), Windows10, Windows11

**Hardware Platforms:** Arduino

**Miscellaneous:** PyTorch, TensorFlow, MySQL, OpenCV, React-Native, Gurobi, Git, Shell, LaTeX, Markdown, Web Establishment, Qt

## HONORS/AWARDS

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First Prize, China Undergraduate Mathematical Contest in Modeling (Provincial Level)	2022
Meritorious Winner, Mathematical Contest In Modeling	2022
Second Prize of Northeastern College Students Mathematical Contest in Modeling (Provincial Level)	2021
First-Class Scholarship, Harbin Engineering University	2021
Second-Class Scholarship, Harbin Engineering University	2022
Third-Class Scholarship, Harbin Engineering University	2022&2023
Excellent Youth League Member, Harbin Engineering University	2022

## INTERNSHIP

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### Big Data Development Center, Ministry of Agriculture and Rural Affairs

**Remote**

Position: Data Analyst, General Analysis Division

03/2023 - present

- Crawled and processed agricultural big data and agricultural related academic literature
- Maintained cloud database and modeled cloud deployment
- Performed statistical analysis and prediction of agricultural pests, crop yields and related economic indicators.