

YUHANG JIANG

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EDUCATION

EIT Manufacturing Master & Doctoral School	Sep 2023 - Sep 2025
Data Science and AI for a Competitive Manufacturing Master	
Università di Trento	Sep 2023 - Sep 2025
Master of Science - MSc, Computer Science Master	
University of Applied Sciences and Arts of Southern Switzerland	Sep 2023 - Sep 2025
Master of Science - MSc, Engineering Master	
Anhui University 211	Sep 2019 - Jun 2023
Intelligent Science and Technology	
GPA: 3.16/5.00 (Average Score : 84.34/100)	
Awards: Second Prize for Outstanding Academic Performance(12/2022)	
First Prize Scholarship of Academic science and technology(12/2021)	
Courses: Machine Learning, Pattern Recognition, Big Data Analysis, Numerical Analysis, Natural Language Processing.	

RESEARCH EXPERIENCE

High Performance Computing for Grey Wolf Optimizer (GWO) Optimization	Jan 2025
<ul style="list-style-type: none">Designed and implemented the HGT-GWO algorithm, incorporating global historical best positions and individual trend guidance, significantly improving convergence speed and outperforming traditional GWO on three benchmark functions.Proposed a novel master-worker island parallelization scheme, enabling independent subpopulation operations and reducing communication overhead through controlled synchronization intervals, thereby enhancing parallel efficiency.Conducted experimental validation of the HGT-GWO algorithm using Python, demonstrating superior performance over GWO on 15 test functions.Developed a fully parallelized implementation utilizing C, MPI, and OpenMP, tailored for UNITN's HPC cluster to optimize computational resources.	
Augmented Reality-Driven Robotic Arm Control for Industrial Automation	Sep 2024
<ul style="list-style-type: none">Conducted a comprehensive literature review on XR technologies in Industry 5.0, highlighting human-centric design, worker safety, and data privacy issues.Developed and tested a system that combines YOLOv8 and FastSAM models to achieve accurate image segmentation and fingertip coordinate mapping.Designed an AR-based interface using Microsoft HoloLens 2 for real-time gesture recognition, allowing intuitive robotic arm control.Achieved highly efficient performance in industrial environments, mitigating challenges such as hand occlusion using time-sharing processing and ensuring flexible task handling.Demonstrated scalability through multi-mode operation, enabling both gesture-based and interface-based controls for part picking.	
Research on Semantic Segmentation Method of High-Resolution Remote Sensing Images Based on Non-Local Attention Mechanism with Deep Learning	May 2023
<ul style="list-style-type: none">Outstanding Undergraduate Graduation Project.Conducted comprehensive research on efficient and accurate image segmentation algorithms for complex remote sensing images.Developed an encoder-decoder model with residual-weighted attention to enhance feature extraction and mitigate performance degradation.Conducted experiments on ISPRS Potsdam and Vaihingen datasets, achieving F1-scores of 90.23% and 87.37%, respectively, outperforming models without attention mechanisms.Demonstrated proficiency in convolutional neural networks, Transformer models, and attention mechanisms for semantic segmentation tasks.	
Music Generation Toolkit (based on Pytorch)	Dec 2022
<ul style="list-style-type: none">A collection of excellent music generation models in recent years.The music data format includes compound word and REMI.The model is mainly transformer, including transformer XL, Vanilla Transformer, etc.It can freely combine models to generate music.	
Visualization Platform for COVID-19 Focus Segmentation	Oct 2022
<ul style="list-style-type: none">Offline inference, real-time display of segmentation results, and support NII file export.Used UNet and BiSeNetV2 to segment COVID-19 lesion.Used PyQt5 to visualize the nii image format.	
Scissors Stone Cloth finger guessing based on Jetson Nano	Jun 2022
<ul style="list-style-type: none">All are developed on the Jetson Nano, including data collection, model training and testing.Support real-time data reading (captured by camera) and automatically give game results.	

PUBLICATIONS

1. **Y.Jiang***, W.Tong, "Improved lightweight identification of agricultural diseases based on MobileNetV3", CAIBDA 2022(oral).
 2. Software Copyright of Intelligent contract software for agricultural insurance compensation. 2022SR1568111. Nov. 2022
- Note: * indicates the corresponding author

COMPETITIONS

Kaggle March Machine Learning Mania 2025 - Silver Medal (64th / 1,727)	Apr 2025
Kaggle BirdCLEF 2024 Competition - Bronze Medal (70th / 974)	Jun 2024
Mathematical Contest In Modeling(MCM) , Finalist winner (top 1%)	Apr 2021

Leader

- Designed a set of algorithms to assess the degree of hunger around the world and optimize the food supply chain.
- Responsible for modeling, programming and part of paper writing.
- The youngest winner in the history of Anhui University and the first winner of School of Internet.

The second prize in iCAN Innovation Contest 2021(Anhui) Oct 2021

Team member

- Developed a set of hardware system capable of intelligently monitoring and warning the abnormal behavior of the elderly.
- Responsible for some STM32 development and project plan writing.

PROFESSIONAL EXPERIENCE

Chengdu Jiaoda Guangmang Technology Co.,Ltd.	Jul 2022 - Sep 2022
Algorithm Intern	Chengdu, Sichuan, China

- Researched the newest machine learning algorithms and industrial anomaly detection algorithm.
- Applied GAN models to reconstruct images to identify anomalies and evaluate the performance.
- Used the object detection neural network model to detect abnormal parts in high-speed rail supports.
- Assisted colleagues in developing a set of character recognition patents for LCD meters.

SKILLS LIST

Programming: Python, C/C++, Matlab, R, Java, C#.

Toolkits: Pytorch, Tensorflow, PaddlePaddle, Sklearn, MPI, OpenMP etc.

Deep Learning Architectures: CNN, RNN, Transformer, Mamba.

Algorithms: Computer Vision, Natural Language Processing, ARIMA, Reinforcement Learning, Evolutionary Algorithms.

Applications: Image Classification, Image Segmentation, Object Tracking, Industrial Anomaly Detection, Time Series Data Analysis.

Other Skills: Unity, Quality Management, Lean Manufacturing, Circular Economy, Sustainable Management, etc.

Language

English

Fluent, TOFEL 102

Chinese

Native Speaker