JIAYI GUO

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Google Scholar |

EDUCATION

Bachelor of Engineering | ***Communication Engineering (Joint Program)*** Sep. 2022 – Jul. 2026
University of Electronic Science and Technology of China (UESTC) & University of Glasgow Chengdu, China

- GPA: 85.39 / 3.79
- **Core Courses:**
  - Linear Algebra and Space Analytic Geometry: 98
  - Elements of Information Theory: 88
  - Introductory Programming: 95
  - Digital Circuit Design: 92

HONORS AND AWARDS

Outstanding student of the university Oct. 2022
Awarded students who are outstanding both academically and morally

Outstanding students of the college Oct. 2022
Recognition for to 15% of students in academics at the college

PUBLICATIONS

Journal paper

- **J. Guo**, Z. Chen, Y. Ji, L. Zhang, D. Luo, Z. Li, and Y. Shen, "UniAutoML: A Human-Centered Framework for Unified Discriminative and Generative AutoML with Large Language Models," in IEEE Transactions on Multimedia, under review, 2024.

RESEARCH EXPERIENCE

Diffusion Models for Virtual Try-On Systems

National Supercomputing Center Sep. 2024 – Present
Supervisor: Dr. Changwei Wang Jinan, China

- Developed a virtual try-on framework applying diffusion models and other advanced techniques, enabling users to easily visualize clothing changes using just a single image.
- Enhanced the realism and accuracy of garment fitting, improving user experience and convenience in online shopping scenarios
- Addressed the challenge of replacing long-sleeved clothes with short-sleeved garment by staged and partial replacment, largely improving user experience.

Generative AI in Semantic Communication Systems

UESTC Apr. 2024 – Present
Supervisor: Prof. Yusha Liu Chengdu, China

- Applied generative AI model to suppress information to its latent space and decompress after transmission which conserved communication resources in communication systems
- Explored the method to transmit information accurately under water using AI models to fix inaccurate received information by learning large numbers of underwater communication datasets
- Solved the problem of applying AI models on complex-valued communication systems and modify my AI model since AI models are mostly used for real-valued problems while information transmission often uses real values

Large Language Models for Automated Machine Learning

Johns Hopkins University Feb. 2024 – Present
Supervisor: Dr. Yiqin Shen Baltimore, MD

- Led a research project independently on applying large language models on conducting both discriminative and generative machine learning automatically
- Conducted experiments on multiple datasets in different conditions using my framework, which performed better in most situations
- Performed a user experiment with 25 participants and the results validated its convenience
- Wrote a research paper independently based on the project and submitted to IEEE Transactions on Multimedia

Project Experiences

Automated Pace Tracking Drone

UESTC Jan. 2025 - Present
Chengdu, China

- Designed and constructed a drone that can achieve automatic tracking, recognize objects and pick them up
- Constructed a drone from the very beginning including programming, building the fuselage, verifying its capabilities without a Supervisor
- Completely autonomous without using remote sensing, the drone trace path, recognize and grasp objects by itself

Mini Model of Smart Home Using Embedded Processor

UESTC Apr. 2023 - Jun. 2023
Chengdu, China

- Constructed a mini model of smart home using STM32 embedded processor, which can detect environmental factors like temperature, luminance, humidity and respond accordingly
- Independently program the embedded processor, constructed the circuit and tested it

Simple AI model for classfiying objects

UESTC Dec. 2024 - Jan. 2025
Chengdu, China

- Constructed a AI model using Transformer to classify 7 types of objects
- Contributed to the dataset we used and my model performed better than other students' models

Extracurricular Activities

Reviewer of CVPR Dec. 2024 - Jan. 2025
Worked as a reviewer, reviewing papers of computer vision frameworks

Champion of the College Football Tournament Oct. 2022
Recognized as the Champion Class in the Tournament

Outstanding Class Committee Member of the College Oct. 2023, Oct. 2024
Granted to class committee members who demonstrated exceptional dedication

Private and small group tutor Jul. 2023 - Aug. 2023
Worked as a tutor, offering both one-on-one sessions and small-group lessons

Skills

Languages: English(IELTS: 7.5)
Programming: Python (NumPy, SciPy, Matplotlib, Pandas, Pytorch), MATLAB, C
Document Creation: Microsoft Office Suite, LaTex