

YANG ZHANG

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EDUCATION

University of Electronic Science and Technology of China (UESTC)

Bachelor of Engineering in Communication Engineering

Chengdu, China | Sept. 2021 - Jun. 2025

- **Overall GPA:** 3.8/4.0 | **Rank:** Top 10% | IELTS: 8.0 | GRE: 330
- **Honors:**
 - UESTC Merit Scholarship for Exceptional Student (Top 10%) – Oct. 2024
 - UESTC Merit Scholarship (Top 30%) – Oct. 2022, Oct. 2023
 - Hainan Free Trade Port Merit Scholarship (Top 10%) – Jan. 2022
- **Relevant Coursework:** Artificial Intelligence and Machine Learning, Stochastic Signal Analysis, Communication Networks, Embedded Processors, Signal and Systems, Circuit Analysis and Design, Electromagnetic Field and Microwave Technology, Information Security, etc.

University of California San Diego (UCSD)

Master of Science in Computer Engineering

La Jolla, CA | December. 2025 - now

RESEARCH AND LAB EXPERIENCE

State Key Laboratory of Computer Architecture, Institute of Computing Technology, Chinese Academy of Sciences

Research Assistant in State Key Lab of Processor | Beijing, China | Jul.- Aug. 2024

- Designed embedded systems tailored for CMOS image sensors to enhance image processing capabilities and output quality.
- Developed and optimized Image Signal Processing (ISP) algorithms using Python, MATLAB, and C. Implemented image processing functions such as noise reduction, sharpening, and color correction.

State Key Laboratory of Computer Architecture, Institute of Computing Technology, Chinese Academy of Sciences

Beijing, China

Research Assistant in Center for Advanced Computer System | Beijing, China | Aug - Nov. 2023

- Analyzed Maximum Information Coefficient (MIC) data to explore dataset relationships.
- Enhanced the MIC algorithm to better identify and visualize correlations, optimizing the data processing workflow and increasing accuracy and efficiency.

PROJECT EXPERIENCE

Design of Image Synthesis Scheme Based on Text Prompts Developer

Developer | Chengdu, China | Sept. 2024 – Apr. 2025

- Achieved a 29.6% increase in Inception Score (127 vs. 98) and a 36.5% reduction in FID (1.98 vs. 3.12) compared to the Stable Diffusion v1.5 baseline; validated superior aesthetic quality and semantic alignment through Multi-dimensional Preference Score (MPS) testing.
- Optimized an image synthesis pipeline by integrating the FLUX.1 generative model with LoRA fine-tuning, specifically tailored for high-quality anime-style generation and addressed hardware constraints using mixed-precision training.

Thermistor Network Parameter Optimization Using Genetic Algorithms and Neural Networks

Developer | Chengdu, China | Nov. 2023 - Jan. 2024

- Developed an intelligent system combining genetic algorithms and neural networks to optimize thermistor network parameters, reducing computational needs while increasing precision.
- Used MATLAB to load the neural network model, define standard values for resistors and

thermistors, and set parameters for the genetic algorithm.

Vehicle Detection System with Improved RT-DETR Based on MobileNetV4

Developer | Chengdu, China | Apr. - Sept. 2024

- Optimized the RT-DETR model by integrating a lightweight MobileNetV4 backbone for real-time vehicle detection in resource-constrained environments.
- Achieved a 65% reduction in parameters and 75% in computational complexity compared to RT-DETR-L, 45% and 54% compared to RT-DETR R18. Validated through rigorous testing on COCO format vehicle datasets.

AI Acupuncture Robot, School of Automation, UESTC

System Developer | Chengdu, China | Feb. - Aug. 2023

- Designed and implemented a robot arm control system based on STM32F4 for precise acupuncture execution, utilizing PID control algorithms and real-time data collection from sensors.
- Developed Wi-Fi communication systems for remote monitoring and control, and integrated OLED displays for real-time status visualization.

Embedded Vehicle with Autonomous Navigation System and Task Execution Capability

Vision System Designer | Chengdu, China | Mar. - Jun. 2023

- Led the development of the vision recognition system of the vehicle using OpenMV and Python.
- Wrote, debugged, and tested the system to ensure stable performance across different environments.
- Gained hands-on experience in software development and deepened understanding of hardware-software integration. Enhanced project management and teamwork skills.

PUBLICATIONS

Yang Zhang, Improved RT-DETR Based on MobileNetV4 for Vehicle Detection published on 2025 8th International Conference on Advanced Algorithms and Control Engineering (ICAACE)