TAO LIN

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EDUCATION

B.E., Kunming University of Science and Technology(KUST) *September 2022 - Present*
Major: Artificial Intelligence GPA: 3.59/4.0
Relevant Courses: Mathematical foundations of artificial intelligence(93/100), Machine Learning and Data Mining(93/100), Mathematical modeling(93/100), Artificial Intelligence Programming(92/100)

DATA ANALYTICS SKILLS

Programming Languages	Python, C/C++, MATLAB
Languages	English: CET-4 (555), CET-6 (491)
Software & Tools	LaTeX, Markdown, Excel, Word, PPT

PUBLICATION

YOLOv8-LSD: Improved YOLOv8 Focused on Small Target Information Extraction for Road Damage Detection December 2023 - March 2024
First Author, PRMVIA (EI Conference)

- Improved and proposed YOLOv8-LSD algorithm to address the limitations of existing algorithms in detecting damages in complex scenarios
- Introduced deformable attention mechanism to enhance model's recognition accuracy in key areas
- Integrated large separation convolution kernel attention module to enhance detail recognition
- Optimized feature extraction through spatial and channel reconstruction convolution modules

FASR-Net: Unsupervised Shadow Removal Leveraging Inherent Frequency Priors August 2024 - December 2024
First Author, ECAI (CCF B) Under Review

- Implemented an unsupervised frequency-aware shadow removal network, solving shadow removal challenges caused by geometric, lighting, and environmental factors
- Designed Wavelet Attention Downsampling Module (WADM) utilizing intrinsic frequency characteristics of shadow regions, combining wavelet image decomposition with deformable attention mechanism to enhance shadow details
- Introduced innovative loss functions including frequency loss, luminance-chrominance loss, and alignment loss to improve shadow-free image restoration accuracy

GarmentGPT February 2025 - May 2025
Co-first Author, SIGGRAPH Asia (CCF A) Under Review

- Proposed an innovative discrete representation model for garment patterns based on encoder-decoder architecture, achieving multi-stage precise quantization of complex geometric structures through residual vector quantization
- Refined annotations of GCD dataset using three-layer structured description framework and image annotation, enhancing garment geometric feature expression capability
- Introduced a complete set of special token sets, established hierarchical formal representation structure, and fine-tuned using Qwen2.5-VL and LLaMA Factory frameworks

SELECTED AWARDS AND HONORS

First-Class Scholarship, for outstanding academic performance at KUST *2024-2025*

Participated as Project Leader/Team Captain in the following competitions:

National First Prize, RAICOM Robotics Developer Competition [Algorithm Optimization] *2024*
National Second Prize, National College Student Mathematical Modeling Competition *2024*
National Second Prize, Global Campus AI Algorithm Elite Competition *2023*
National Third Prize, China College Student Intelligent Robot Creative Competition *2024*
National Third Prize, Chinese Collegiate Computing Competition *2024*
National Third Prize, China Robotics and Artificial Intelligence Competition *2024*
3rd Place, iFLYTEK AI Algorithm Competition [Large Model Image Style Transfer Challenge] *2024*

PERSONAL EXPERIENCE & PROJECTS

Westlake Xinchen July 2023 - August 2023
Data Annotation/Algorithm Internship

- Conducted comprehensive data cleaning and validation, removing incomplete and misclassified data entries
- Developed and implemented a five-level creative text rating system based on four key factors (originality, unpredictability, comprehension, and scalability) for evaluating AI-generated responses
- Designed and trained a reward model to assess creative text generation based on user inputs and multiple response iterations

Enhanced Visual Language Navigation Method Based on GeoText-1652 January 2025 - February 2025
Joint leader

- Designed and implemented novel spatial relation prediction components including regression head for distance offset prediction and classification heads for horizontal/vertical relations
- Introduced dynamic loss weighting mechanism with learnable parameters to balance multi-task learning between regression and classification tasks
- Developed comprehensive spatial relation predictor that integrates feature extraction, transformation, and fusion for improved spatial layout understanding
- Improved Image Query performance: R@1 (26.3 $\rightarrow$ 27.5), R@5 (53.7 $\rightarrow$ 54.7), R@10 (66.9 $\rightarrow$ 67.3) through optimized loss function design and multi-task learning approach

weshare March 2025 - Now
co-founded

- I strive to create a comprehensive competition exchange platform that breaks down information barriers through sharing experiences and solutions, helping participants resolve confusion and improve their chances of winning. Thus, together with my friends, I co-founded a group called WeShare. The website is https://weshare.xin/.

OBJECTIVE & INTEREST

I am eager to explore the integration and applications of Multimodal Technologies and Embodied AI. I believe these advanced technologies have the potential to significantly enhance our understanding and interaction with the world. I am committed to dedicating my efforts to this meaningful pursuit, aiming to contribute to technological progress.