Jingtong(Stacy) Yue

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Education

Carnegie Mellon University (CMU) — Pittsburgh, PA
Master of Science in Computer Vision, School of Computer Science — *Aug. 2025 – Dec. 2026*

Sichuan University — Chengdu, China
Bachelor of Engineering in Electronics and Information Engineering | GPA: 3.87/4.0 — *Sep. 2021 – Jun. 2025*

Experience

Undergraduate Research Assistant — Peking University & University of California, Merced
3D Detection for Autonomous Driving — *May 2024 – Oct. 2024*

- Conducted a systematic analysis on the **safety** and **stability** of radar-camera 3D object detection, benchmarking 4 key types of radar corruptions using scikit-learn, Numpy, and Pandas libraries
- Proposed RobuRCDet, a robust detector based on **Pytorch, mmcv and mmdetection3D** designed to handle adverse weather and radar corruption, achieving a **19.4%** improvement in NDS and a **25.7%** improvement in mAP
- Designed efficient 3D Gaussian Expanding algorithm and adaptive fusion modules to boost perception robustness in challenging weather conditions

Artificial Intelligence Research Assistant — MMLab @ Nanyang Technological University
Video Generation Towards World Model — *Feb. 2025 – Sep. 2025*

- Engineered a **data pipeline** to parse and categorize **300+** research papers based on **diffusion models** and **auto-regressive models**, automating classification, and evaluation from video generation to world models
- Developed a benchmarking framework integrating 20+ evaluation detailed capabilities across 3 core capabilities, faithfulness, interactiveness, and planning, enabling systematic comparison of state-of-the-art models
- Maintained an **open-source repository (150+ stars)** widely used by the research community

Undergraduate Research Assistant — Sichuan University
Image Processing and Image Assessment — *Dec. 2022 – Mar. 2024*

- Proposed a self-collaboration strategy for **unsupervised image restoration** based on **GANs**, boosting performance by $>$ **1.5 dB** without added inference complexity
- Developed a degradation-aware **no-reference image quality assessment** through **contrastive learning** by both degradation and quality representations, implemented on both **CNN** and **Transformer** frameworks

Projects

Auto-Patrolling Robot | *Python, Face Recognition, Depth Estimation, LLM, Linux* — May 2023 – Aug. 2023

- Developed a cyber-police robot capable of navigating complex indoor environments with scenes integrated with **Llama**, such as intersection, corner, and unknown obstacles, based on **Linux** and **C**
- Innovated a **real-time intersection detection** algorithm based on **depth estimation** with **Swin-Transformer** architecture, achieving a **12%** improvement in accuracy and **3%** reduction in processing latency
- Implemented a **security personnel authentication system** using **facial recognition** deep learning model
- Built a hardware system based on **Raspberry Pi**, integrating dual ultrasonic sensors and infrared sensors for precise long- range and short-range **obstacle avoidance**, achieving a **5%** reduction in latency

Multi-function Image Restoration App | *Java, INT8 Quantization, Android, Object Detection* — Mar. 2024 – Jun. 2024

- Applied **model compression** techniques such as pruning and **INT8 quantization** with **Java**, reducing model parameters by **8%** **10%**, for denoising, crack repair, super- resolution, and old photo restoration respectively
- Developed an **Android App** integrating various image restoration functions powered by deep learning models, while also porting the **YOLOv5** model to enable real-time detection

Skills

Programming Languages: Python, C/C++, JavaScript, Java, HTML/CSS, MATLAB
Tools and Frameworks: Git, Docker, VS Code, Visual Studio, PyCharm, Linux, Android, AWS, CoLab
Machine Learning: PyTorch, TensorFlow, OpenCV, Pandas, Numpy, MMCV, MatplotLib

Publications

Jingtong Yue, Zhiwei Lin* , et al.* RobuRCDet: Enhancing Robustness of Radar-Camera Fusion in Bird's Eye View for 3D Object Detection. ICLR 2025 [Paper] [Code]
Jingtong Yue, Xin Lin, Zijiu Yang, Chao Ren. Dual-Representation Interaction Driven Image Quality Assessment with Restoration Assistance. WACV 2025 [Paper]
Additional published papers in [TPAMI Paper], [TCSVT Paper]