Haoxuan Xu

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EDUCATION

Shandong University   2020.9 — 2024.6
Bachelor in Communication Engineering
- *Overall GPA: 85.7/100   3.6/4*   *Outstanding Graduate of Shandong University*

The Hong Kong University of Science and Technology(Guangzhou)   2024.9 — 2026.6(expected)
*Mphil in ROAS Trust supervised by **Haoang Li***

PUBLICATIONS

1. **Cross-Domain Car Detection Model with Integrated Convolutional Block Attention Mechanism** pdf
   Haoxuan Xu, Songning Lai, Xianyang Li, Yang Yang
   *Accepted by Image and Vision Computing (**JCR Q1 IF4.7**)*

RESEARCH EXPERIENCES

Embodied AI   **2023.2 — 2023.6**
ROAS Mphill, Advisor: Prof. Haoang Li   *HKUST(GZ)*
- Dynamic Navigation: Emphasizes adaptability in real-world scenarios.
- VLN Coarse-instruction parase: Links language understanding to visual environment.
- Indoor Robot Path Planning: Showcases algorithmic rigor.
- Multi-View Geometry and SLAM: Aligns with computer vision and sensor fusion trends

Domain Adaptive Nighttime Vehicle Detection   **2022.6 — 2023.5**
Research Intern, Advisor: Prof. Yang Yang   *Shandong University*
- Based on the improved CycleGAN and improved Faster R-CNN, this study focuses on domain adaptation (DA) for vehicle detection in multiple scenarios, specifically for detecting vehicles in dark conditions. Due to the labor-intensive annotation process, the existing daytime vehicle data is used as the source domain, and CycleGAN is employed to generate images of vehicles in the target domain (dark scenes). The improved object detector, Faster R-CNN, is then fine-tuned using the generated images after learning the features of daytime vehicles. This approach achieves satisfactory results in the detection of vehicles in dark scenes.

SELECTED PROJECTS

Image Algorithm Intern   **2023.11 — 2024.4**
Intern   *DJI*
- Participate in the evaluation of various camera image processing solutions and performance optimization through simulation.
- Engage in competitive analysis and reverse engineering work for product focusing and brightness systems.
- Contribute to the establishment and construction of the image quality framework.

Research Intern   **2023.12 — 2024.03**
Intern   *KAUST*
- Committed to researching multimodal backdoor attack defense, employing rigorous theoretical methods to counteract multimodal backdoor attacks.

SELECTED AWARDS

First Prize in Shandong Province for the National College Student Mathematical Modeling Competition (top 10%)
Second Prize in the 14th National College Student Mathematics Competition
Honorable Mention in 2023 Interdisciplinary Contest In Modeling Certificate of Achievement
Second Prize in the "Datang Cup" National College Student Communication Technology Competition at Shandong Province
Third-class Academic Scholarship at Shandong University
Outstanding Graduate of Shandong University
Outstanding Individual in Innovation and Entrepreneurship at Shandong University
Outstanding Volunteer of Shandong University

SKILLS

Python, C, Git, LaTeX, MarkDown, State
Pytorch, MATLAB, matplotlib, OpenCV, Tensorflow, Numpy