Dacheng Qi(齐大成)

Master's student, Communications Engineering
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SKILLS AND INTERESTS

Research interests: Embodied AI; 3D Scene Representation;
Language: IELTS 6.0;   **Programming:** Python, C/C++, PyTorch, Java, Embedded, Unreal Engine

EDUCATION

DEGREE	UNIVERSITY	GPA	RANK	SUPERVISOR	YEAR
· Master of Engineering	Beihang University	3.53	-	Wenrui Ding	2023 - now
· Bachelor of Engineering	Beijing Jiaotong University	3.85	15 / 235	Qinglong Ma	2019-2023

PROJECTS INVOLVED

1. 3D Scene Reconstruction and Drone Flight Simulation with Unreal Engine   *Project Website*
Aligned 3DGS with satellite maps to create a simulation environment for autonomous driving and drones, providing real-time RGB, segmentation, and depth data.

2. Edge Computing on Embedded Devices   *Project Website*
Developed drivers and applications on embedded Linux to control external devices, and deployed lightweight AI models on the NPU for acceleration.

ACADEMIC RESEARCHES

1. Efficient Implicit SDF and Color Reconstruction via Shared Feature Field   *2024*
Shuangkang Fang; Dacheng Qi (Co-first author);   ***Accepted by ACCV***   *Project Website*
We propose a framework that utilizes a shared feature field and periodic sine activation to enhance surface reconstruction and novel view synthesis.

2. Guiding Yourself with Your Own Insights: Student-Driven Knowledge Distillation   *2024*
Dacheng Qi, Huayu Zhang and Wenrui Ding (Supervisors);   ***Under Review***
We propose a knowledge distillation framework that employs a proxy teacher based on the student network and a Feature Fusion Block to improve knowledge transfer efficiency.

3. Reinforcement Learning Based UAV Swarm Fission-Fusion Approach with Integrated Validation of Perception and Control. *(Best Paper Award)*   *2024*
Xiaorong Zhang; Wenrui Ding (Supervisors) and Dacheng Qi;   ***Accepted by ICUS***   *Project Website*
In this paper, I am responsible for designing a simulation system in Unreal Engine to validate and visualize a reinforcement learning-based clustering algorithm.

COMPETITIONS PARTICIPATED

1. Intel Cup Undergraduate Electronic Design Contest - Embedded System Design Invitational Contest   *2022*
Dacheng Qi; Guangyou Zhou and Shuona Li;   ***National - Third Prize***   *Project Website*
Trained, distilled, and deployed two object detection networks on embedded devices for privacy masking and user analytics, with real-time results shown via web.

2. National Undergraduate Electronic Design Contest   *2021*
Dacheng Qi, Weiqi Gao and Guangyou Zhou;   ***Beijing - Second Prize (Ranked 2)***   *Project Website*
Developed an internet-based camera system using Raspberry Pi to measure simple pendulum parameters, including string length and swing angle.

HONORS AND AWARDS

· **Outstanding Graduate**, *Top 10%*   *2023*
· **First-Class Academic Excellence Scholarship**, *Top 2%*   *2022*