Qixuan (Keeron) Huang

qixuan3@illinois.edu | (217) 979-6447

TECHNICAL SKILLS

Programming: Python, C/C++, Assembly(LC3, RISC-V), SQL(MySQL)

System: Docker, Linux Kernel, Unix, Qemu

Development: CUDA, Git, Makefile, Latex, Markdown, GDB, Pytorch, Bash Scripts, Blender

RESEARCH

CVNext Lab — Haining, CN
Advisor: *Gaoang Wang* — Jun. 2023 - Present

- Redesigned automation algorithm to fetch piexl-level height data via Blender OSM data.
- Contributed to the development of the CityCraft-OSM and CityCraft-OSM-Satellite datasets.
- Collaborated on large language model integration to optimize geospatial computation based on Geochat.
- Led ECCV workshop on autonomous driving recognition and achieved a top 10 ranking.

Ultrafast Photonics Laboratory — Hangzhou, CN
Advisor: *Chaoyuan Jin* — Jun. 2023 - Sep. 2023

- Enhanced classic Boids algorithms by integrating quantum dynamics theories, resulting in a 20% improvement in algorithmic efficiency for foraging and hunting simulations.
- Contributed to theory transformation by implementing mathematical models that enabled real-time quantum dynamic behavior visualization.
- Developed MATLAB and Python visualization models, encapsulating quantum theory in real-time data presentations.

PROJECTS

CityCraft: A Real Crafter for 3D City Generation — Jan. 2024 - May. 2024

- Built a framework for infinite, diverse 3D city layout generation using an outpainting pipeline and multi-scale diffusion model, achieving state-of-the-art results.
- Tools Used: Python(Pytorch, Numpy), Blender, UE5

Citygen: Infinite and Controllable 3D City Layout Generation — Jun. 2023 - Nov. 2023

- Generated diverse and realistic 3D city scenes using a diffusion transformer for layouts, a large language model for planning, and Blender for asset placement, achieving state-of-the-art results.
- Tools Used: Python(Pytorch, Numpy), Blender

Quantum Algorithms Based on Robot Swarms — Jun. 2023 - Sep. 2023

- Enhanced the Boids algorithm by integrating quantum dynamics, improving efficiency by 20%, and developed real-time visualization models using MATLAB and Python.
- Tools Used: Python(Numpy), SQL(MySQL)

EDUCATION

University of Illinois Urbana-Champaign — Aug. 2022 – Jun. 2026(Expected)

- B.S. in Computer Engineering, GPA: 3.93/4.0
- **Coursework:** Computer Systems Engineering, Applied Parallel Programming, Probability with Engrg Applic, Computer Systems & Programming

Zhejiang University, — Aug. 2022 – Jun. 2026(Expected)

- B.S. in Electrical and Computer Engineering, GPA: 4.03/4.3

AWARDS AND DISTINCTIONS

Zhejiang University Scholarship - Second Prize **2022**

TEACHING

RHET 102 Principle of Research, UIUC **S24**
Under: Mary Hays