Qihao He

phyqh@tamu.edu | github.com/phyqh | phyqh.github.io

Education

Texas A&M University — May. 2025 – Ongoing
Doctor of Philosophy in Computer Science, GPA 3.88/4.00 — College Station, TX, USA

Texas A&M University — Aug. 2023 – May. 2025
Master of Science in Computer Science — College Station, TX, USA

The Hong Kong University of Science and Technology — Sep. 2019 – Jun. 2023
Bachelor of Science in Data Science and Technology & Computer Science (Double-Major) — Kowloon, Hong Kong
- Graduated with First Class Honors, GPA 3.65/4.30
- 2022/23 CSE Best Final Year Project: **Real-time Vacancy Detection System**

Publications

Neural Importance Sampling of Many Lights
Pedro Figueiredo, **Qihao He**, Steve Bako, Nima Khademi Kalantari
SIGGRAPH 2025

Neural Path Guiding with Distribution Factorization
Pedro Figueiredo, **Qihao He**, Nima Khademi Kalantari
EGSR 2025

Work Experience

Aurora — Jun. 2024 – Aug. 2024
Software Engineer Intern, Synthetic World and Sensor Simulation Team — Mountain View, CA, USA
Topic: Many-light rendering.
- Implemented Stochastic Lightcuts, organized in spatial cells within a Bounding Volume Hierarchy.

Capmi Technology — Jun. 2022 – Aug. 2022
Software Developer Intern — New Territories, Hong Kong
Topic: IMU-based motion capture.
- Implemented Foot Rooted Kinematic Model and Kalman Filtering algorithms for an inertial motion capture system,

Projects

Real-time Vacancy Detection System github.com/lzr5198/carpark-vacancy-detection-system — Sep. 2022 – May 2023
- Detecting occupancy status of more than 12 parking spaces using one fisheye-camera in real-time.
- Accuracy greater than 90% with pedestrian noise filtering algorithm.

Graphics Projects github.com/iphyqh/course_projects_pg — Sep. 2022 – Dec. 2022
- **Geometry Processing.** Implemented Laplacian smoothing methods and a Laplacian mesh editing technique.
- **Rendering.** Implemented volumetric cloud rendering using fractal noise and ray marching.

Pixel Fantasy github.com/phyqh/Pixel-Fantasy — Feb. 2022 – May 2022
- An OpenGL-based game featuring a 3D ARPG with 2D Sprites without dependence on game engine.

Teaching Experience

Teaching Assistant for CSCE 441: Computer Graphics — Texas A&M University, Fall 2025
Instructor: Dr. Nima Kalantari

Skills

- **Programming Languages:** Python, C++, CUDA, Java, Scala
- **Tech Skills:** PyTorch, Mitsuba 3, OptiX, Embree, OpenGL