

Qihao He

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Education

Texas A&M University Doctor of Philosophy in Computer Science, GPA 3.88/4.00	May. 2025 – Ongoing College Station, TX, USA
Texas A&M University Master of Science in Computer Science	Aug. 2023 – May. 2025 College Station, TX, USA
The Hong Kong University of Science and Technology Bachelor of Science in Data Science and Technology & Computer Science (Double-Major) <ul style="list-style-type: none">Graduated with First Class Honors, GPA 3.65/4.302022/23 CSE Best Final Year Project: <u>Real-time Vacancy Detection System</u>	Sep. 2019 – Jun. 2023 Kowloon, Hong Kong

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

<u>Aurora</u> Software Engineer Intern, Synthetic World and Sensor Simulation Team <i>Topic: Many-light rendering.</i> <ul style="list-style-type: none">Implemented Stochastic Lightcuts, organized in spatial cells within a Bounding Volume Hierarchy.	Jun. 2024 – Aug. 2024 Mountain View, CA, USA
<u>Capmi Technology</u> Software Developer Intern <i>Topic: IMU-based motion capture.</i> <ul style="list-style-type: none">Implemented Foot Rooted Kinematic Model and Kalman Filtering algorithms for an inertial motion capture system to track movement from walking to dynamic motions including running and jumping.	Jun. 2022 – Aug. 2022 New Territories, Hong Kong

Projects

Real-time Vacancy Detection System github.com/lzr5198/carpark-vacancy-detection-system <ul style="list-style-type: none">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.	Sep. 2022 – May 2023
Graphics Projects github.com/iphyqh/course_projects_pg <ul style="list-style-type: none">Geometry Processing. Implemented Laplacian smoothing methods and a Laplacian mesh editing technique.Rendering. Implemented volumetric cloud rendering using fractal noise and Ray Marching.	Sep. 2022 – Dec. 2022
Pixel Fantasy github.com/phyqh/Pixel-Fantasy <ul style="list-style-type: none">An OpenGL-based game featuring a 3D ARPG with 2D Sprites without dependence on game engine.	Feb. 2022 – May 2022

Skills

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