

# Qihao He

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## Education

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### 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)

Sep. 2019 – Jun. 2023  
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

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### 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

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### Aurora

Software Engineer Intern, Synthetic World and Sensor Simulation Team  
*Topic: Many-light rendering.*

May 2024 – Aug. 2024  
Mountain View, CA, USA

- Implemented Stochastic Lightcuts, organized in spatial cells within a Bounding Volume Hierarchy.

### Capmi Technology

Software Developer Intern  
*Topic: IMU-based motion capture.*

Jun. 2022 – Aug. 2022  
New Territories, Hong Kong

- Implemented Foot Rooted Kinematic Model and Kalman Filtering algorithms for an inertial motion capture system,

## Projects

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### **Real-time Vacancy Detection System** [github.com/lzr5198/carpark-vacancy-detection-system](https://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](https://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](https://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

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### **Teaching Assistant for CSCE 441: Computer Graphics**

Instructor: Dr. Nima Kalantari

Texas A&M University, Fall 2025

## Skills

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

Last Updated in September, 2025