

Minghao Huang

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Education

University of California, Santa Barbara Sept 2024 – Present

Master of Science in Computer Science

Advisor: *Prof. Lingqi Yan*

Nanjing University Sept 2019 – June 2023

Bachelor of Science in Computer Science and Technology

Advisor: *Prof. Jie Guo*

Teaching Experience

Teaching Assistant of Algorithm Design & Analysis Spring 2022

Nanjing University

Publications

Biophysically-based Simulation of Sun-induced Skin Appearance Changes Pacific Graphics 2024

X. He*, M. Huang*, R. Fu, J. Guo, J. Yuan, Y. Wang, Y. Guo (* Joint first authors)

In this work, we propose a biophysically-based model to illustrate changes in skin appearance under ultraviolet radiation exposure. We apply a mechanism of erythema and tanning to a multilayer volumetric skin appearance model to simulate observable erythema and tanning induced by sun exposure on skin.

Personal Projects

MikuMikuDance Videos 2024

- Created MMD videos using a self-designed anime/toon shader.
- Integrated the toon shader with lightmaps, outline, physically based rendering, SDF on face, screen space rim light, etc. to achieve a better appearance.

GraphicsRender 2022

- An offline path tracing renderer written by C++, using microfacet model as the material model to realize physically based rendering.
- Supported multiple importance sampling and different samplers like blue noise sampling to reduce artifact.
- Used BVH to accelerate rendering.

Azur Defense 2021

- A tower defense game written by C++, which was realized 2D overlooking game scenes with 3D.
- Adopted OpenGL as the graphics rendering framework and edited the rasterization process of the rendering pipeline.
- Developed a simple and convenient game engine including game logic, human-computer interaction, etc. by referring to Unity.

Selected Awards

Excellent Graduate, Nanjing University 2022

Second-class People's Scholarship, Nanjing University 2021 & 2022

Bronze Medal, China Collegiate Programming Contest Changchun Site 2020

Technical Skills

Programming Languages: C/C++, Java, C#, Python, GLSL/HLSL

Software: OpenGL, Mitsuba, PBRT, Blender, Unity