Haomin Guo

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EDUCATION

Engineering Management *Tianjin University* *2018 - 2022*

- GPA: 3.67/4.0
- Third Prize of National Mathematics Competition
- National Inspiration Scholarship (Twice)
- Third Prize of the 10th "Jingjing Le Dao" Economic Hotspot Analysis Competition (organized by Tsinghua University)

Computer Science and Technology *Zhejiang University* *2022 - present*

- Laboratory: State Key Lab of CAD&CG
- Courses studied: Computer Graphics, Artificial Intelligence Algorithm and Systems, 3D CAD Modeling, Computer Animation and Applications, etc.
- Field: Model-Based Systems Engineering (MBSE), Computer Aided Design(CAD), Artificial Intelligence(AI)

RESEARCH EXPERIENCE

State Key Lab of CAD&CG *Zhejiang University* **Hangzhou, China** *09/2022 - present*

- **GST: A framework to automatically generate SysML diagrams from text based on deep learning(submitted)**

  Specifically, I built a framework, based on deep learning, to generate Systems modeling language(SysML) diagrams automatically from unstructured natural language text without any involvement of user in the progress, which is the first attempt to apply deep learning to SysML diagrams generation. Our method can achieve a high degree of automation and the result can be import to the mainstream modeling software, allowing for subsequent modifications and additional modeling tasks.

PROJECT

Monte Carlo Ray Tracing Renderer

Developed based on C++, using Monte Carlo Integration to implement Ray Tracing Rendering.

- Utilizes Axis-Aligned Bounding Box (AABB) and Bounding Volume Hierarchy (BVH) to accelerate intersection calculations.
- Utilizes local illumination models: Phong, Blinn-Phong, Microsurface.
- Makes use of Multiple Importance Sampling (MIS) to enhance robustness.

ADDITIONAL SKILLS & INTERESTS

- **CS, ML and DL**

  I took additional machine learning and deep learning courses beyond the required curriculum, including Statistical Learning Methods, Dive into Deep, Natural Language Processing with Deep and Deep Learning for Computer. Furthermore, I acquired proficiency in using PyTorch framework and get expertise in commonly used programming languages such as C++ and python.

- **Cycle sport and Guitar**

  Recently I have become fascinated with road cycling and ride my road bicycle almost everyday to exercise and relax. I'm also enthusiastic about music and instruments and play a little guitar.