Yifan Lu

Email: lyifa@seas.upenn.edu
Portfolio: http://portfolio.samielouse.icu/index.php/category/featured/
Mobile: 215-669-1621
Github:https://github.com/lyifaxxx
Linkedin: Yifan Lu

Education

- **University of Pennsylvania** — PA, US
  Master of Science in Engineering, Computer Graphics and Game Technology — *Aug. 2023 - May. 2025*
  Course: *GPU Programming and Architecture, Advanced Rendering, Computer Animation, Procedural Graphics, Production Pipelines*
- **Sichuan University** — Chengdu, China
  Bachelor of Engineering-Computer Science and Technology, Honors Degree; GPA: 3.84/4.0 — *Jun. 2023*

Professional Skills

- **Programming**: C++, Python, MEL, C#, JavaScript
- **Tools & Graphics API**: OpenGL, WebGL, CUDA, Nisght Profilers Git, Maya, Qt Creator, Visual Studio, Houdini, Unreal Engine, Unity, Substance Designer, Substance Painter, 3Ds Max, Motion Builder, Adobe Photoshop & Premiere, RenderDoc, Jira, Confluence, Perforce

Experience & Projects

- **FluidFoam (Houdini Simulation Plugin)** — Philadelphia, PA
  Fluid Simulation, C++, Houdini — *May. 2024*
  - A Houdini plugin based on Smoothed Particle Hydrodynamics (SPH) for simulating realistic fluid-foam interactions in 3D environments. Implemented foam particle classification for distinguishing **spray**, **bubbles**, and **foam**, enhancing the visual realism of fluid simulations.
  - Designed for artist's production use in visual effects and animation, improving efficiency in rendering high-quality fluid-foam interactions.
- **CUDA Path Tracer** — Philadelphia, PA
  Rendering, C++, CUDA, Performance Optimization — *Sept. 2024 - Present*
  - GPU-accelerated path tracer with stochastic sampled antialiasing.
  - Support for custom mesh loading. Visual effects such as refraction and depth of field.
- **L-System Maya Plugin** — Philadelphia, PA
  C++, Optimization, OpenMaya, MEL — *Mar. 2024*
  - A Maya plugin that uses L-Systems for procedural generation of plant geometry.
  - Dynamic generation of L-Systems through Maya's time system, allowing for animated growth simulations.
- **Mini-Minecraft (Game Project)** — Philadelphia, PA
  Multi-Threading, Render, C++, Optimization, OpenGL — *Dec. 2023*
  - Enhanced Terrain rendering by optimizing drawing on a per-chunk basis, reducing the number of draw calls per frame and improving rendering efficiency.
  - Fluid simulation: water wave effect, player's movement with the flow, water gravity.
- **Mini Maya (Artist Tool)** — Philadelphia, PA
  C++, Qt Creator, Mesh Topology, Mesh Data Structure, 3D Geometry — *Oct. 2023*
  - A 3D mesh manipulation tool in C++ using QT Creator, featuring OBJ file import and leveraging a half-edge data structure for efficient mesh processing.
  - Implemented a simple skeleton loader and a distance-based skinning function. Implemented the shader-based skin deformation.

Employment

- **Tencent - Timi Studio** — Shenzhen, China
  Technical Artist Intern — *May. 2024 - Aug. 2024*
  - **Developed and maintained DCC tools** for Autodesk Maya, 3ds Max, and Adobe Substance Suite, improving workflow efficiency in asset creation.
  - **Developed and maintained a UE4 C++ plugin** for seamless asset import and transfer across various DCCs and projects, enhancing cross-platform compatibility.
- **University of Pennsylvania** — Piladelphia, PA
  Teaching Assistant — *Aug. 2024 - Present*
  - **Assisted in setting up and maintaining the motion capture system,** ensuring smooth integration into the animation pipeline for student projects.
  - Held office hours and graded assignments, providing technical support and feedback to students on animation techniques and projects.
- **Ubisoft** — Chengdu, China
  Intern Game Tester — *Feb. 2023 - Jun. 2023*
  - **Conducted thorough smoke tests, hammer tests, and performance tests** for an unreleased video game on both PC and console platforms, ensuring the early detection of critical issues, assessing system resilience under stress, and optimizing overall performance.