Yiu Chung Steven Ho

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Date of Birth: 16/12/1999 Nationality: British

Education

University of Leeds, UK • 2022

Master of Science in High-Performance Graphics and Games Engineering – Expected Merit

- Related Modules taken: Foundation of Modelling and Rendering, Geometric Processing, Animation and Simulation, High-Performance graphic, Scientific Computation and Artificial Intelligence.
- Worked on creating a Rasterizer and Ray Tracer to mimic the basic functionality of OpenGL which includes Matrix Transformation, Texture Mapping, Phong Shading.
- Implemented Inverse Kinematics, Soft-Body Simulation and SPH Fluid Simulation.
- Mesh Data Structures, Geometry Curves and Surfaces, and Texture Synthesis and Generation.
- Implemented a Vulkan Rendering program to perform Mipmaping, Anisotropic filtering, Physically Based Rendering, and bloom effect for Post Processing.
- 3D Mathematics: Linear Algebra, Vector Math.
- Hands on experience in tools such as: OpenGL, Vulkan, Visual Studio 2019/2022, GLSL and git Version Control.

Swansea University, UK • 2021

Bachelor of Science (Hons) in Computer Science – First Class Honours

- Related Modules taken: Computer Graphics, Introduction to Video Game Programming, Web Application Development, Software Engineering, Advanced Object-Oriented Programming (C, C++), Cryptography and IT-Security, Writing Mobile Apps (Android, Kotlin), Database System etc.
- Participating in group discussion work which involve exchange of ideas and finalize decisions on a certain topic; Present ideas and findings in the form of visual and verbal presentation.
- Worked in team of three to six to complete assigned projects. Motivated and inspired team members through offering support, encouragement, and positive attitude.
- Analyzing various resources of information in a structured, well-evidenced and coherent manner.

Tang King Po School • 2017

Hong Kong Diploma of Secondary Education (HKDSE): Chinese, English, Mathematics, Biology, Chemistry

Skills

Language: Proficient and fluent in Chinese (Cantonese) and English

Programming Language: C, C++, C#, Java, Python, Kotlin, HTML and CSS, MySQL, Laravel, PHP

Hands on experience: OpenGL, Vulkan, Unity, GLSL, Visual Studio 2019/2022, Git Version Control

Side Projects

Will Engine

- Source: https://github.com/stevenwhatever123/Will-Engine Blog: https://twitter.com/bear123_gummy
- A Vulkan toy game engine built from the ground up to refresh my rendering knowledge and programming skills.
- A user modifiable material system for selecting texture image in run time, Unreal Engine inspired BRDF specular shading model, Deferred Rendering, Point Light Shadow Mapping, Call of Duty inspired Compute Shader Bloom, Entity Component System.
- Utilized: C/C++, Vulkan, GLSL, Visual Studio 2022, git Version Control, Assimp, GLFW, GLM, ImGui, volk, vma, glslc, RenderDoc, Nvidia's Nsight.

University Projects

Nox Engine, COMP5530M Group Project, University of Leeds

- Source: https://gitlab.com/sharlock93/noxengine Demo: https://www.youtube.com/watch?v=RSH4iIbSRrY
- A game engine inspired by Inscryption and Slay the Spire that is targeted to have card game as the main focus.
- Implemented the Asset Loading, Animation System, Animation Editor, some part of the Entity Component System (ECS), some part of the UI (Presets panel, Inspector panel – customizable game objects), Serializing and Deserializing System.
- Utilized: C/C++, OpenGL 4.6, GLSL, Visual Studio 2022, git Version Control, Assimp, Glad, GLFW, GLM, ImGui, ImGuizmo, RenderDoc.

MSc Project Dissertation

Hair Simulation

- A hair simulation software based on the paper "A Mass Spring Model for Hair Simulation".
- A simulation implemented with an OpenGL renderer, physical model, time integration, and collision detection.
- Cubic Bezier Curve support for hair rendering.
- A Curly hair model was implemented and simulated with around 2 million hair particles.

Final Year Dissertation

Improved Video Game Technology

- Improve enemy's A.I. behavior in an existing Unity3D game which involves:
- Replacing Finite State Machine A.I. with Behavior Tree.
- Improving A-Star pathfinding algorithm with random selection of nodes.
- Implementing Group Behaviors where a group of enemies which they can interact and act differently.