Junyi Liu Gameplay Programmer

412.580.7014 | junyil2@andrew.cmu.edu | junyiliu.me

EDUCATION

Carnegie Mellon University, Entertainment Technology Center (ETC) **Pittsburgh, PA**

Master of Entertainment Technology Expected May 2021

Shanghai Jiao Tong University **Shanghai, China**

Bachelor in Software Engineering Jun 2019

- Relevant courses: Game Design, Computer Graphics, Human-Computer Interaction, Introduction to Computer Systems, Computer System Engineering, Algorithms, Operating System, Linear Algebra

SKILLS

Languages: C#, C, C++ (OpenGL, OpenCV, Cuda), HLSL, SQL, Java, Java Script, Python

Applications: Unity, Visual Studio, Photoshop, Git, Perforce, HTC Vive, Linux, MySQL

EXPERIENCE

Microsoft Asia-Pacific Research and Development Group **Shanghai, China**

Software Engineering Intern at Azure Stack Storage Team June 2018-Oct 2018

- Implemented the prototype for Azure Stack Storage Block Blob Online Migration
- Researched in performance between RPC pipe and SMB for blob transmission

ACADEMIC PROJECT

Building Virtual Worlds, Programmer **ETC, Fall 2019**

- Designed and developed games in 2-3 weeks, worked in teams, 5 rounds
- Cooperated people with different roles and backgrounds, brainstormed, built protypes and swiftly iterated
- Used non-traditional input devices such as HTC Vive, Valve Index, Magic Leap and Phidges
- Worked on gameplay coding, level designing, visual effects and environment building

Unified Particle Physic Engine, Individual project **SJTU, Jan 2019-Apr 2019**

- Implemented a particle physic engine based on position based dynamics (PBD)
- Supported the simulation of physic object like cloths, fluid, deformable
- Improved the overall performance to support real time simulation (12K+ particles, 90fps)
- Proposed a new grid based PBD method to improve the performance of fluid only simulation

3D Function Visualization on Hololens, Programmer **SJTU, June 2018-July 2018**

- Implemented the parser for math function input
- Improved the performance of mesh generation for both explicit and implicit 3D functions
- Added a OCR module for the image input for the function

Seabed Fish Swarm Simulation, Individual project **SJTU, Jan 2018**

- Used BOIDs algorithm to simulate the behavior of the fish swarm (predator, preys)
- Implemented a shader on OpenGL for underwater visual effect
- Enabled sound to control the behavior of the fish swarm

PERSONAL PROJECT

Project Bastion, Programmer & Game Designer **Oct 2017- Dec 2017**

- An AR 3D shooting game enable player to build own fortresses and destroy others
- Responsible for turret behavior and game manager programming
- Implemented bastion building system
- Create visual effects for weapons
- Won the “Best AR Project Award” in National VRAR Development Challenge for College Students