**THY TRAN** thytran316@outlook.com ● tatran5.github.io ● 408.915.9698

**EDUCATION**------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**University of Pennsylvania**, School of Engineering Philadelphia, PA

BSE in Computer Science: Digital Media Design May 2021

**SKILLS**----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

C++ ● C# ● Java ● CUDA ● GLSL ● HLSL ● WebGL ● Cg ● MaxScript ● C ● JavaScript ● Kotlin ● OCaml

Qt ● Visual Studio ● Unity ● Unreal Engine ● Android Studio ● Houdini

Maya ● ZBrush ● Substance Painter ● 3ds Max ● Adobe Creative Suite

**ENGINEERING COURSES**-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Fall 2020 courses are labelled with \*

GPU Programming \* Advanced Rendering Game Design and Development

Computer Vision \* Physically Based Animation Software Design and Engineering

Machine Learning \* Computer Animation Data Structures & Algorithm

**EXPERIENCE**-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**Electronic Arts: BioWare**, Technical Artist Intern C#, 3ds Max, MaxScript, Houdini May - Aug 2020

Implemented a procedure to enhance meshes with vertex colors and replace them in a game

Improved tools used to generate vertex color for tree meshes

Communicated with artists to assess needs and provide support

**University of Pennsylvania**, Research Assistant ITK Snap, Houdini, team of 3 Jun - Aug 2019

Built a pipeline to model organs of patients with hiatal hernia from CT scans

Segmented organs on CT scans and created a 3D simulation of the organs

**University of Pennsylvania**, Teaching Assistant

Data Structures and Software Design Java, IntelliJ, Eclipse Jan - May 2020

Advanced Rendering C++, Qt, WebGL Jan - May 2020

Visualizing the Past Maya Aug - Dec 2019

Art, Design and Digital Culture (Head TA) Java, Processing Aug 2018 - May 2020

**PROJECTS**----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**Flocking Simulation** CUDA, C++Aug 2020

Simulated flocking behaviors of birds or fish

Utilized uniform grid with semi-coherent memory access for efficiency

**Haystack Hoarder** Unity, C#, Photon Unity Networking, Maya, team of 3 May 2020

Developed a 3D online multiplayer competitive game

Programmed player movement and interaction, behavior of resources, UI elements and sound effects

Modeled, textured, rigged and animated assets in the game

**Big Fish, Little Fish** Unreal Engine, Maya, Substance Painter, team of 3 Apr 2020

Designed player mechanics, AI for predator and prey, UI and sound effects for a 3D puzzle game

Created underwater environment with post processing effects and particle system

Modeled, textured, rigged and animated assets in the game

**Jello Simulations** C++, Houdini Dec 2019

Implemented MPM on APIC grid system

Programmed mass-spring system

**Path Tracer** C++, Qt May 2019

Designed Monte Carlo path tracer with multiple importance sampling, global illumination and photon mapping

Built features such as point & spotlight, implicit surfaces, thin lens camera and constructive solid geometry

**Habit Tracker** Java, JavaScript, MongoDB, Android Studio, team of 4 May 2019

Developed an Android application with data visualization that let users enter daily entry for their habits, access a list of resources for mental health and answer surveys

Coded a website that allows admin to change user data and create a new survey for users

**Mini Minecraft** C++, OpenGL, Qt Dec 2018

Wrote player’s physics and collision detection with ray casting, texture mapped with OpenGL

Made biomes with Worley noise