Thank you so much for visiting my website! Allow me to introduce myself with a quick story.

I am Po-Lin Tu, and I have recently graduated as an international student from the University of Washington, Bothell (UW Bothell). Pursuing my goal in a university was what I could never imagine myself doing. At some point in my life, the education environment in my home country devastated me; I became too depressed and confused to pursue anything. Before I gave up on my own life, my longing for music drove me to come to the U.S. for a different education system, my interests in the artificial intelligence inspired me to learn more about computer science, and my yearning for the video games led me to major in computer science and software engineering at UW Bothell.

At UW Bothell, I had the privilege to work as part of the DAIS research team, in which I focused on the research into machine learning models for drug candidate generations. I also had the privilege to work on video game projects with smart and bright minds. The following section lists the projects that I have worked on.

Dive

Dive is a 2D underwater adventure game developed through Unity and C#. In Dive, the player will traverse through a mysterious underwater world featuring unknown creatures, gloomy caves, and abandoned structures. To survive in the underwater world of Dive, the player will need to find and utilize resources such as weapons, ammos, and oxygen. I worked on Dive in a team of five during the summer of 2023; my contributions include the following ones:

* Enemy Behaviors (Based on Pathfinding Algorithm)
* State Machine for Enemies
* Enemy Animations (With Procedural Animation and Inverse Kinematics)
* Environmental Storytelling (Using Enemy Placement)
* Tutorial Section
* Visual Adjustments for Foreground and Background
* User Interface Improvements
* Participation in Three Playtesting Sessions

Weather Module

This is a module developed for Professor Kelvin Sung’s game engine using JavaScript. This module provides game developers with classes that represent a few types of weathers, allowing the developers to add and adjust weather effects for their own 2D video games efficiently. (It takes about 20 lines of code, mostly simple method calls, to add and adjust 3 types of weathers.) I built this module with a partner during Marh 2023, and these are my contributions:

* Defining the Classes and Interface of Weather Module
* Weather Effect (Design and Implementation)
* Weather Transition

Punch!

Punch! is a mini game project where I and my partner explored and experimented with 3D graphics in Unity. In Punch!, there is a 3D space where the player can move the mouse to control an arm and click on the left mouse button to punch the objects in the 3D space. When working on this project during December 2022, I focused on these two things:

* Vector Computations
* Inverse Kinematics

Project Escape

Project Escape is my very first game project; it is a 2D action game that I wrote from scratch using PyGame, a Python library for writing video games. The player will encounter a series of bosses in Project Escape; nevertheless, these bosses are all invincible. The player must control the character to perform the right action, like rolling, at the right time to avoid the attacks and escape from the bosses. After escaping from a boss, the player will receive some random equipment as a reward. I developed Project Escape during Spring 2022; some notable things that I did for Projects Escape include the following ones:

* Game Loop
* User Interface (Design and Implementation)
* Enemy Behaviors
* Background Scrolling
* Sprite Animations
* Save and Load System