

Zhi-Wei (Tyler) Yang

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EDUCATION

Carnegie Mellon University

Master of Entertainment Technology

Pittsburgh, PA

Sep 2023 - Expected May 2025

National Dong Hwa University

Bachelor of Computer Science

Hualien, Taiwan

Sep 2017 - June 2022

- Academic Excellence Award in 2021

SKILLS

Programming: Python, C, C++, C#, Kotlin, Swift, Java, Assembly

Tools: OpenCV, Tensorflow, Keras, Scikit-learn, Unity, Android Studio, XCode, Perforce, Git

Languages: English, Mandarin Chinese

PROJECTS

Questure

Programmer

Pittsburgh, PA

Jan 2024 – Present

- Developed a game in Unity using OpenCV and Tensorflow for research in teaching American Sign Language (ASL).
- Built and trained a 98% accuracy model using MediaPipe landmarks detection and Tensorflow ML/DL framework for hand gesture detection and prediction.
- Implemented a LSTM model and another dynamic time warping solution for expansion of signs with motion for better game experiences.

Building Virtual Worlds

Programmer

Pittsburgh, PA

Sep 2023 – Dec 2023

- Rapid prototyping and implementation of immersive projects in 2 weeks using C# in Unity.
- Collaborated with artists and sound designers to iteratively design VR/AR games for platforms such as Oculus Quest 3 and Vive Trackers.
- Utilized Unity XR Tool Kit to create mixed reality experience.

Object Detection and Tracking Using Computer Vision

Programmer

Hualien, Taiwan

Mar. 2022 – June 2022

- Detected and distinguished objects such as cursors, timers and human skin, with masks in HSV channels using OpenCV in real time.
- Utilized double thresholding and morphological filters for more accurate detection results.
- Designed an algorithm to classify gestures for Rock, Paper and Scissors.

Face Beautification and Recognizer

Programmer

Hualien, Taiwan

Jan. 2021 – June 2021

- Developed a skin-smoothing filter using bilateral filters and gaussian blur in OpenCV.
- Constructed a CNN model using Keras for face recognition in image.
- Resulting in a model with a 80% accuracy and a loss value less than 1.