

# Wan-Xuan Zhu

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## EDUCATION

### National Taiwan University

Sep. 2021 – Jun. 2023

M.S. in Graduate Institute of Networking and Multimedia

Taipei, Taiwan

- Thesis: Developed the music pitch detection system in collaboration with the National Symphony Orchestra.

## EXPERIENCE

### Research Assistant, National Taiwan University

Mar. 2021 – Sep. 2021

Python, Swift, InfluxDB, Git / Python, Tensorflow, CNN

Taipei, Taiwan

- Reduced manual data collection workload by 99% from 360 times to 1 time a month for 1,767 patients at NTUH.
  - \* Developed the automated psychiatric patient monitoring system with frontend, server-side backend APIs and smartwatch integration.
- Reduced the preprocessing workload by 99% from 3 days to 5 minutes for the Osteoarthritis research.
  - \* Developed an AI-based detection and image cropping system by training a deep learning model.

### Software Engineer, Colatour Travel Service Co., Ltd

Jan. 2018 – Mar. 2020

Lead iOS Developer, Swift, C#, .NET, MS SQL Server, Git, MVP

Taipei, Taiwan

- Led a team of 3 engineers to develop a B2C e-commerce mobile app with 100+ pages and 146,497 downloads.
- Developed a mobile communication app for 1,191 colleagues.
- Involved in the full software development lifecycle, from design, development, App Store deployment, user analysis, and maintenance to feature addition.

### Freelance Developer

Project-Based

Python, MS SQL Server / Ruby, Jekyll, HTML

- Developed the AI-based research scoring desktop platform for Industrial Technology Research Institute (ITRI).
- Developed the company profile website for TwinAI.

### Independent Project (Ongoing)

Present

Golang, Gin, MySQL, AWS, Docker, Git

- Developing a concert seat view platform that helps users evaluate stage visibility from different seats and venues.

## PROJECTS

### Mobile App, Backend, Python, Flask, Git

Speech Emotion Recognition iOS App: Real-Time Audio Analysis with Flask Backend for Data Processing

### Desktop App, C#, Python, Unity

Real-Time Gesture Recognition AR App: Detect and Track Motion to Control 3D Models via Camera

### Mobile App, Backend, C#, Python, MySQL, Unity

Virtual Reality Game Android App: Escape Room Adventure Game

### Website App, Backend, Java, MySQL

Online Game for Pet Adoption, Training, and PvP Battles

**Portfolio:** [youtube.com/@WanXuanZhu](https://www.youtube.com/@WanXuanZhu) (Additional projects included)

## PUBLICATIONS

**Co-Author, Tensorflow, CNN** “Successful Real-World Application of an Osteoarthritis Classification Deep-Learning Model Using 9,210 Knees—An Orthopedic Surgeon’s View”, J. Orthop. Res., 2022

**Co-Author, Pytorch, Transformer** “Training a Deep Contextualized Language Model for International Classification of Diseases, 10th Revision Classification via Federated Learning: Model Development and Validation Study”, JMIR Med Inform, 2022

## SKILLS

**Languages:** C++, Python, Java, Ruby, Swift, C#, Golang, JavaScript, HTML/CSS

**Tools and Libraries:** Git, SourceTree, Slack, Flask, MySQL, Microsoft SQL Server, Postman, Firebase (for Crashlytics, Notifications, and Distribution), Google Analytics, Docker, AWS, Unity