

Wan-Xuan Zhu

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EDUCATION

National Taiwan University

M.S. in Graduate Institute of Networking and Multimedia

Sep. 2021 – Jun. 2023

Taipei, Taiwan

MASTER THESIS

Pitch Detection System Based on Discrete Cosine Transform

Python, Swift, Git, GCP

Sep. 2021 – Jun. 2023

Taipei, Taiwan

- Applied audio digital signal processing techniques to achieve accurate pitch evaluation in music.
- Collaborated with the National Symphony Orchestra.

EXPERIENCE

Research Assistant, National Taiwan University

Python, Swift, InfluxDB, Git, GCP

Mar. 2021 – Sep. 2021

Taipei, Taiwan

- Developed a Psychiatric Patient Monitoring System with mobile frontend, server-side backend APIs, and smartwatch integration,
 - * Achieved a 99% reduction of manual monitoring workload for 1,767 ADHD and ASD patients at NTUH.
- Reduced the preprocessing workload by 98.6% from three days to five minutes by training a deep learning-based object detection model for the Osteoarthritis classification research.

Software Engineer, Colatour Travel Service Co., Ltd

Lead iOS Developer, Swift, C#, .NET, Git, GCP, MVP

Jan. 2018 – Mar. 2020

Taipei, Taiwan

- Led a team of 3 engineers in developing the B2C e-commerce mobile app, with over 100 functional pages and 146,497 downloads.
- Developed an internal communication system mobile app for 1,191 company colleagues.
- Involved in the full software development lifecycle, from planning and design to development to the App Store, testing, user analysis, maintenance, feature addition.

PROJECTS

Mobile App, Frontend, Backend, Swift, Python, Flask, Git

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

Desktop App, Computer Vision, Python

Real-Time Gesture Recognition App: Detect and Track Hand and Motion Gestures to Control Models via Camera

Mobile App, Game, Frontend, Backend, Swift, Python, MySQL

Virtual Reality Game Android App: Escape Room Adventure Game

Web Application, Game, Frontend, Backend, Java, MySQL

Online Game for Pet Adoption, Training, and PvP Battles

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PUBLICATIONS

Co-Author, “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, “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, Swift

Tools and Libraries: Git, SourceTree, Slack, Flask, MySQL, Postman, Firebase (for Crashlytics, Notifications, and Distribution), Google Analytics, Google Cloud Platform (GCP), Jenkins