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*

Fu Jen Catholic University — Sep. 2013 – Jun. 2017
B.B.A. in Information Management — *New Taipei City, Taiwan*

MASTER THESIS

Pitch Detection System Based on Discrete Cosine Transform — Sep. 2021 – Jun. 2023
Advisors: Feipei Lai, Ph.D., Yiju Chen, M.S. — *Taipei, Taiwan*
- Applied audio digital signal processing techniques to achieve accurate pitch evaluation in music.
- Collaborated with the National Symphony Orchestra to enhance mobile app's functionality and performance.

EXPERIENCE

National Taiwan University, Medical Informatics Lab — Mar. 2021 – Sep. 2021
Research Assistant — *Taipei, Taiwan*
- Developed a Psychiatric Patient Monitoring System with Frontend, Backend, and Smartwatch Integration
  * Eliminated 99% of manual monitoring workload for 1,767 patients at NTUH by designing the system workflow, integrating the mobile app, wearable smartwatch detection, and server-side backend APIs.
- Contributed to research on Osteoarthritis Classification using Deep Learning
  * Reduced the preprocessing workload by 98.6% by training a YOLOv4-based object detection model.

Colatour Travel Service Co., Ltd — Jan. 2018 – Mar. 2020
Software Engineer, Lead iOS Developer — *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.
- Built a B2B mobile app featuring in-app webpage to support business processes.

PROJECTS

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

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

Mobile App, Game, Frontend, Backend
Virtual Reality Game Android App: Escape Room Adventure Game

Web Application, Game, Frontend, Bakckend
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

PROFESSIONAL SKILLS

Languages: C++, Swift, Python, Java, JavaScript, HTML, CSS
Tools and Libraries: Git, Bitbucket, Slack, Flask, Postman, Firebase, Google Cloud Platform