

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

- Coursework: Machine Learning, Digital Visual Effects, Interactive Computer Graphics, Computer Vision

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 digital signal processing techniques to achieve accurate pitch evaluation in audio signals.
- Collaborated with the National Symphony Orchestra to enhance system functionality and performance.
- Developed a user-friendly mobile app for iPhone and iPad.

EXPERIENCE

National Taiwan University, Medical Informatics Lab

Mar. 2021 – Sep. 2021

Research Assistant

Taipei, Taiwan

- Contributed to Osteoarthritis Classification With Deep Learning Research
 - * Reduced the preprocessing workload by 98.6% by training a YOLOv4-based object detection model.
 - * 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.
- Developed a Psychiatric Patient Monitoring System using Wearable Smartwatch Detection
 - * Eliminated 99% of manual monitoring workload for 1,767 patients at National Taiwan University Hospital by integrating the mobile app, wearable smartwatch detection(Garmin vivosmart), and server backend APIs.

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 travel 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, Audio Processing

Speech Emotion Recognition iOS App: Real-Time Audio Recording and Analysis Using the Microphone

Desktop App, Camera, Computer Vision

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

Mobile App, Camera

Augmented Reality iOS App: Display 3D NFT Models Through the Camera

Mobile App

Virtual Reality Game Android App: Escape Room Adventure Game

Web Application

Online Game for Pet Adoption, Training, and PvP Battles

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PROFESSIONAL SKILLS

Languages: C++, Swift, Python, Java, JavaScript, HTML, CSS

Tools and Libraries: Git, Slack, MediaPipe, OpenCV, openSmile, Accelerate vDSP, OpenGL, Firebase, Google Cloud Platform