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

MASTER THESIS

Pitch Detection System Based on Discrete Cosine Transform   Sep. 2021 – Jun. 2023
Python, Swift, Git   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   Mar. 2021 – Sep. 2021
Python, Swift, InfluxDB, Git / Python   Taipei, Taiwan
- Developed a Psychiatric Patient Monitoring System with mobile frontend, server-side backend APIs, smartwatch integration, and automated server-side scheduling.
  - ∗ Achieved a 99% reduction in 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   Jan. 2018 – Mar. 2020
Lead iOS Developer, Swift, C#, .NET, Git, MVP   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.

Freelance Developer   Project-Based
Python, Microsoft SQL Server, PySimpleGUI / Ruby, Jekyll, HTML
- Developed the AI-based Research Scoring Desktop Platform for Industrial Technology Research Institute(ITRI).
- Developed the company profile website for TwinAI.

PROJECTS

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

Mobile App, Game, Frontend, Backend, C#, Python, MySQL
Virtual Reality Game Android App: Escape Room Adventure Game

Website App, Game, Frontend, Backend, Java, JavaScript, HTML/CSS, MySQL
Online Game for Pet Adoption, Training, and PvP Battles

Portfolio: youtube.com/@WanXuanZhu (Additional projects included)

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, Ruby, C#
Tools and Libraries: Git, SourceTree, Slack, Flask, MySQL, Postman, Firebase(for Crashlytics, Notifications, and Distribution), Google Analytics, Jenkins