






Yuming Xu

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EDUCATION

South China University of Technology 2021.9 - present
Major in Software Engineering & Minor in Business Administration GPA: 3.6 /4

RESEARCH EXPERIENCE

- **Filling Time Series using Human-Computer Collaboration** 2023.12 - present
Under the guidance of Prof. Zikun Deng, I am conducting a project focused on filling missing data in time series of air quality indices using human-computer collaboration. Building upon existing algorithmic, my work explores how human-computer collaboration can enhance performance and develops a tool for interaction. I built the tool (Vue + Flask) that allows users to fill missing sequences refer to relevant data efficiently. Human participation includes correcting the dataset for active learning and directly adjusting the output results. Currently, I am experimenting with the effectiveness of human-computer collaboration versus AI efforts only.
- **Dysphagia Identifying and Alerting using Deep Learning in Vibratory Signals** 2024.3 - present
The project focuses on identifying and alerting when patients with dysphagia, which means mistakenly inhale food into their trachea. The inputs consist of three swallowing-related signals: nasal airflow intensity, three-axis motion of the throat, and audio waveforms. The output is the level of dysphagia, manually labeled in the dataset. I have finished signal preprocessing, including wavelet denoising, gravity component separation in the motion sequences, signal smoothing, and feature extraction. Based on the preprocessed signals, I am developing a hybrid CNN/RNN model to capture hazardous features in swallowing activity within the 3-type signals, aiming to achieve effective classification of dysphagia levels.

DEVELOPMENT EXPERIENCE

- **First Place, Futu Cup Finance Software Design Competition** 2023.5
Developed a tool for the Futu Cup, organized by Futu Securities, integrating stock parameter visualization, user-friendly interfaces, and ROI predictive modeling. My work included backend developing (SpringBoot) and the ROI predictive model (XGBoost).
- **Android Group Lead, Front-End Development, Cloud Computing Laboratory** 2024.1 - 2024.4
In the smart platform project outsourced by my college for a construction company, I led a 5-member-team to develop the Android front-end. (Flutter).
- **Back-End Development, Intelligent Algorithm Lab** 2023.9 - 2023.12
My work was back-end database service, access control and front-end reconstruction (SpringBoot + Qt).
- **Back-End Developer Internship, Bingosoft Co., Ltd.** 2023.7 - 2023.8
Contributed by validating a solution (Golang) for MQTT message identification between the central and edge sides under weak network.
- I participated in the 30-days ByteDance back-end training camp (Golang) and completed the task. (2023.1)
And I worked on backend development (Django) for a moral education evaluation platform project, which received the third prize in the 'Challenge Cup' at school level. (2023.3)
In addition, I design a 2D monster battle game with random map in C++ course. (2022.5)

CAMPUS EXPERIENCE

- Provincial Outstanding Volunteer ,Guangdong Province, in University Sports Meet
- Head of Cycling Club & Student Union Organization Department of College

SELF-ASSESSMENT

Motivated, creative, hard-working, great at adapting to new environments, and skilled in communication.