Yuming Xu

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EDUCATION

South China University of Technology 2021.9 - present

Major in Software Engineering & Minor in Business Administration   GPA: 3.61 /4

RESEARCH EXPERIENCE

- **Filling Data in Time Series through Human-Machine Collaboration**   2023.12 - present
Under the guidance of Prof. Zikun Deng, I am conducting a project focused on exploring a human-machine collaboration method for enhance algorithm performance. Specifically, for the task of filling missing time series data of air quality indices, I classified parts that humans are likely to correct using mutation rules and model using **GNN**. Then I designed a visualization platform (**Vue**) that allows human interaction to correct the test set performance efficiently and feed it back into the model for active learning or adjust the output. Currently, I am broadly experimenting with the effectiveness of this approach.

- **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 using **XGBoost**.

- **Android Group Lead**, Front-End Development, Cloud Computing Laboratory   2024.1 - 2024.4
Led a 5-member team to develop the Android front-end for a smart platform project, outsourced by the college's Cloud Computing Laboratory to a construction company. (**Flutter**).

- **Back-End Development, Intelligent Algorithm Lab**   2023.9 - 2023.12
Contributed to back-end database services, access control and front-end reconstruction (**SpringBoot** + **Qt**).

- **Back-End Developer Internship**, Bingosoft Co., Ltd.   2023.7 - 2023.8
Contributed by validating a solution for MQTT message identification between the central and edge sides under weak network. Received excellent performance evaluation.

- 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 (**Qt**) with random map in **C**++ course. (2022.5)

CAMPUS EXPERIENCE

- Provincial Outstanding Volunteer ,Guangdong Province, in University Sports Meet
- Head of school's Cycling Club, Key member of college's Student Union

SELF-ASSESSMENT

Motivated, Creative, Hard-working, and Communicative.