Haoquan Zhang

haoquanzhang@outlook.com · (+86) 189-3866-5901 ·

Education

South China University of Technology (SCUT), Guangzhou, China 2021 – Present

Undergraduate student in Data Science (DS), expected March 2025.
GPA of 3.7/4.0

Research Experience

SCUT Multi-Media Lab, Guangzhou, China 2023 – present

Research Intern Adviser: Huaidong Zhang

Research how to apply visual language models to the transferability of multimodal tasks, and how to fine-tune large models for vertical domains.

- Proposed **Mask4Align** (Accepted by **CVPR 2024, first author**), a novel pipeline without additional training, which incorporates colored masks into the image, enabling the VQA (Visual Question Answering) models to handle discrimination and localization challenges associated with multiple entities. (The paper file will be attached to an email.)

SCUT Medical Information and Neuroimaging Lab, Guangzhou, China 2021 – 2023

Research Intern Adviser: Kai Wu

Recearch on biomedical signal processing, medical artificial intelligence and human brain connectomics in automatic diagnosis of stroke, depression and schizophrenia, and explore the mechanism of brain structure and functional damage within these diseases.

- **An Auxiliary Diagnosis Algorithm for Schizophrenia.** This project is an entry for the 8th National Biomedical Engineering Innovation Design Competition for College Students. In this project, we designed a deep learning model fused features extracted from EEG and ECG, which achieved the function of automatic diagnosis. Our project won the second prize in the finals. (The entry file will be attached to an email.)

Project Experience

Perfect GunMayhem Remake: A 2D Shooting PVP Game Based on Cocos2d-x 2022

Course Design Course: Advanced Language Programming (C++)

GunMayhem Remake is a project independently completed by our team members, covering all aspects, including source code, game atrwork, and music assets.

- Final Score: 99, 4.0/4.0. (1%)
- C++, Cocos2d-x (the game engine)

Limbs Motor Function Monitoring System 2021

Course Design Course: Exploration and Design of Biomedical Engineering

Built an automatic classification system to assess the subject's weight-bearing status based on EEG and EMG. This design is an exploration of the ability of EEG and EMG to assess the motor status of stroke patients.

- Final Score: 92, 4.0/4.0.
- Python, PyTorch, MNE-Python (a Python package for analyzing neurophysiological data)

Skills

- Programming Languages: Python > C++ > Java
- Platform: Linux, Window
- Languages: English - Fluent, Mandarin - Native speaker

♡ Honors and Awards

Meritorious Winner (7%), The Interdisciplinary Contest in Modeling (ICM), COMAP 2021
3rd Prize (12%), The SCUT Scholarship, SCUT 2022
3rd Prize (12%), The Huameng Scholarships, TCL Corporate 2022
2nd Prize (5%), The Taihu Innovation Scholarship, Wuxi city government 2022
2nd Prize (6%), The National BME lnnovation Design Competition, China Society of Biomedical Engineering 2023

ℹ Miscellaneous

- Personal Website: https://haoquanzhang.github.io/