Ruxu LIU

+44 07493649662 | ruxuliu2021@163.com | github.com/PaperWings2019 | linkedin.com/in/ruxu-liu-1ba285250/

Education

University College London *London, UK*
Computer Science, Master of Science *Sep. 2022 - present*

University of Electronic Science and Technology of China, Glasgow College *Chengdu, China*
Communication Engineering, Bachelor of Engineering *Sep. 2018 - July. 2022*
with First Honored Class degree

Projects

Database Management, Server, and Client: Auction System *Oct. 2022 - Nov. 2022*

- Implemented an auction system with basic functions including user logging access control, creating new auctions, searching for interested auctions, placing bids, and recommending similar auction
- Took advantage of PHP to manage the server-end data processing and decide what useful data to return, where majority of work is interacting with database using SQL statements and tackling user input and credentials
- Designed relational database using MySQL, which makes retrieving and updating data easy and efficient, with the help of sophisticated relational algebras, foreign key constraints and customed events

Software Engineering: Humanitarian Emergency Management System *Oct. 2022 - Nov. 2022*

- Implemented a management system that simulates humanitarian emergency situations, which features administrator and user accounts with different privilege to modify the database, inter/intra channel message system, thorough exception detection, and robust and user-friendly executable file
- Built with Object-Orientated Programming style written in Python, taking advantage of techniques like heritage, loggers, python-based interaction with database, reusable and argument-flexible methods

Machine Learning: Early Warning of Parkinson's Disease Based on Speech and Handwriting *Dec. 2020 - Dec. 2021*

- Based on the speech and handwriting data of Parkinson's patients, the project used SVM and Transformer machine learning model to help identify the potential possibility of early Parkinson's disease
- Compared with the single model to improve the prediction precision of the joint speech and handwriting mode
- Developed a user-friendly web page client with HTML/CSS and conducted specific calculation on the remote server to make real-time predictions for users in using the web page

Experience

National University of Singapore Summer Research Program: Structure and Interpretation of Computer Programs
May. 2021 – Dec. 2021

- Researched computational thinking, including pure functional programming to build a simple substitution-based execution model, a powerful modern imperative language (a branch of Javascript called Source), and a realistic environment-based execution model to evaluate the scope of program objects
- Studied numerous computation concepts by attending lectures, viewing tutorials, participating in workshops, and completing various challenging and relevant coursework (ex: list processing and robotics)
- Achieved "A" average and awarded certificate by summer research program

American Mathematical Contest in Modeling: The Prioritizing Strategies Based on Cellular Automata and Convoluted Neural Network *Jan. 2021*

- Established recognition model to predict distribution of Vespa Mandarina based on cellular automata (CA) and convolutional neural network (CNN) given text and image information collected by civilians
- Processed a dataset of 3,000+ photos with data-augmentation and selection as training set and verification set
- Authored comprehensive report in English detailing analysis and findings

Skills

Programming: Python, C, MySQL, PHP, Git, Assembly (MIPS), Javascript, Java