Luo Xinyu

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EDUCATION

Oxford Brookes University & Chengdu University of Technology (CDUT)
BSc (Hons) Software Engineering 09/2021-07/2025 (Expected)
• Final Degree Classification: First Class Honours (Overall Average Mark: 72.125%)
• Relevant modules: *Machine Learning(74.7), The Human Computer Interface(79), Mathematics for Computing (81), Object Orientated Programming (80), DevOps (74), Basic Communications and PC Networking (76)*
• Notable Scholarship: CDUT Oxford Brookes College Scholarship (2023, 2024)

RESEARCH EXPERIENCE

Early Cancer Detection Using Multi-Scale CNN and Transformer-Based Deep Learning Approaches（Final Project）
1st Author 10/2024-05/2025
• Developed a hybrid framework integrating EfficientNetV2 and Vision Transformer (ViT) for cancer detection
• Designed Shifted Patch Tokenization (SPT) and Learned-Scale Attention (LSA) to improve feature extraction
• Achieved 87.3% validation accuracy and 0.892 AUC on the BreakHis dataset
• Delivered a comprehensive technical report and prototype system under faculty supervision

Ensemble Learning-based Multimodal Framework for Predictive Modelling of Chest Diseases
2nd Author 04/2024-07/2024
• Created a multimodal predictive framework to detect chest diseases
• Applied ensemble learning techniques to analyze X-ray images and electronic health record (EHR) data
• Conducted data analysis, evaluated models, and implemented transfer learning and bagging algorithms
• Boosted area under the curve (AUC) values by 3%-20% across 11 diseases
• Co-authored a paper currently under review

Enhancing Customer Behaviour Prediction in E-commerce: A Comparative Analysis of Machine Learning and Deep Learning Models
Co-1st Author 08/2023-09/2023
• Assisted Professor Shlomo Ta'asan at Carnegie Mellon University in predicting purchase intent and building a data analysis framework
• Developed test cases to ensure the accuracy of data analysis and prediction models
• Analysed datasets and gleaned insights to advise the research team

Design and Implementation of a Self-built Plagiarism Detection System for University Academic Integrity
2nd Author 07/2023-08/2023
• Built the software development framework and wrote test cases for a plagiarism detection system
• Wrote a paper based on literature searching and analysis
• Co-developed algorithms for plagiarism detection and improved the system's accuracy and efficiency

University Scientific Innovation Project: *iShare Learning Platform
Team Member 03/2023-07/2023
• Explored the status of and development trends in online education and wrote an industry research report
• Attended discussions about the design of platform functions and optimisation of user experience
• Produced a progression report and took the minutes to facilitate collaboration between members

Chilli Pepper Pest Recognition Based on HSV (Hue, Saturation, Value) Colour Space and Convolutional Neural Networks
5th Author 01/2023-05/2023
• Analysed experimental data using statistical techniques to gain insight into chilli pepper pest recognition
• Developed tailored data pre-processing methods to ensure analysis accuracy
• Consulted academic literature, synthesised research findings and wrote a paper

EXTRA-CURRICULAR ACTIVITIES

China Robotics and Artificial Intelligence Competition
Team Leader 08/2024
• Built the software development framework and wrote test cases for a plagiarism detection system
• Planned, implemented and collaborated on the technical project

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• Led members to resolve technical issues, improve algorithms, design user interface (UI) and ensure system reliability
• Reached the national final and received a 3rd-class prize

National University Students Innovation and Entrepreneurship Programme
Team Member 11/2023-04/2024
• Participated in a project aimed at developing image anti-counterfeiting detection technology
• Developed and researched image recognition algorithms to enhance security features
• Collaborated with team members to draft the project proposal
• Achieved accurate detection of multiple tampering methods

Institute of Innovation and Entrepreneurship Promotion Association
Co-ordinator 09/2022-06/2023
• Organised lectures on subject-oriented competitions
• Posed 7 science education articles on social media
• Managed and ensured the success of 7 competitions

"Challenge Cup" National University Student Extra-curricular Academic Science and Technology Works
Team Leader 03/2023-04/2023
• Managed team workflow and outlined the intended paper
• Led team-mates to write the paper within 2 weeks and reached the university-level final

Students' Union of Chengdu University of Technology (CDUT)
Organisation Department Officer 09/2021-06/2022
• Co-organised subject-oriented competition training activities 10 times
• Liaised with members and interacted with teachers and peers to guide campers

ADDITIONAL SKILLS

Languages
English (Proficient), Mandarin (Native)

Technical Skills
Programming: Proficient in Java (OOP, multithreading, exception handling), Python (TensorFlow, PyTorch, Pandas, NumPy, Matplotlib)
Web Development: Skilled in HTML, CSS, JavaScript; experienced in using Vue.js to build modern web interfaces
Version Control: Expertise in Git for version control and collaborative development
Database Management: Solid understanding of MySQL, capable of designing and optimizing database structures