ZHAO, Sihang

Dangdai International Garden, Block 3, F-2-602, 430223 | orzhao@ucdavis.edu | Tel: (+86)15927429019

EDUCATION

The Chinese University of HongKong, Shenzhen — Shenzhen, China
MPhil in Computer and Information Engineering, Supervised by Prof. Pinjia He — Jan. 2023- Present

Imperial College London — London, UK
MSc in Applied Computational Science and Engineering, with *Merit* — Oct. 2021- Oct. 2022

University of California, Davis — Davis, California
Exchange Programme, with Overall GPA 3.92 — Sept. 2020- June 2021

Wuhan University of Technology — Wuhan, China
BEng in Computer Science and Technology , with *Overall GPA 3.83* — Sept. 2017- June 2021

RESEARCH INTEREST

- Human-computer interaction (Accessibility Design)
- Software Engineering (Human Aspect)
- AI Security & Ethics (Bias, Robustness for Neurodiversity)

ONGOING PAPERS

- Sihang Zhao, Shoucong Xiong, Bo Pang, Xiaoying Tang, Pinjia He. **Let AI Read First: Enhancing Reading Abilities for Individuals with Dyslexia through Artificial Intelligence.** Submitted to the 27th ACM Conference on Computer-Supported Cooperative Work and Social Computing, San Jose, Costa Rica, November 2024 **(CSCW 2024)**.

RESEARCH EXPERIENCE

MPhil Researcher — The Chinese University of Hong Kong, Shenzhen
LARF:Let AI Read First — Dec. 2022 - Sept. 2023

- Proposed LARF, a novel AI-based presentation method and a software application demo that enhances text readability for dyslexic individuals.
- Comprehensive randomized controlled trials to empirically evaluate the effectiveness of LARF, which involved both dyslexic and typical readers, providing a broad and diverse assessment base.
- Provided insights for the HCI community and accessibility designers focusing on individuals with dyslexia and other related neurodiversity populations: future work and research can concentrate on a series of tasks involving the use of AI and language models for text annotation and presentation.

MSc Final Individual Project — Imperial College London
Automated Crater Detection and Classification with Machine Learning — April 2022 - Sept. 2022

- Designed and implemented the *Metamorphic Crater Generator (MCG)*, a generation algorithm for crater-images.
- Proposed a Crater Detection Algorithm test method and a training iteration strategy based on MCG
- Applied MCG as data augmentation method. On YOLO V5, the recall rate increased by 3% and the mAP 0.5 increased by 2% tested on the dataset provided by Benedix et al.
- The model trained under the MCG - augmentation iteration strategy achieved 7% more recall rate on craters of 1.5∼10 km diam and 6% more recall rate on craters smaller than 1.5 km on the same dataset.

INTERNSHIP

Chinasoft International — Ningbo, China
Software Designer and Developer — Jul. 2020- Aug. 2020

- Involved in a project to make the data analysis (over 2000 lines) of Korean players in “League of Legends”, a free-to-play multiplayer online battle arena
- Made the requirement analysis and product design, implemented UI via TKinter and SQL.
- Learnt and applied Pytesser for security code recognition, dealing with anti-crawling mechanism of some websites
- Employed Good-Turing Frequency Estimation to smooth the aliasing of the data
- Result: the programme’s final prediction and analysis were in line with the actual situation of the current version of the game; won the First Place in the oral defence for the project

AWARDS

Academic Excellent Awards in UC, Davis — June 2021
Third-class Scholarship of Wuhan University of Technology — Nov. 2020
Merit Student of Wuhan University of Technology — Nov. 2020
Excellence Award for 21st East China Cup Mathematical Modelling Competition — May 2019
Second Prize in Chinese High School Mathematics Competition — Sept. 2016

PROGRAMMING SKILLS

C++: Object-oriented programming
Python: Data visualization via **matplotlib, Scientific computing** via **SciPy**
Machine learning via **pytorch** and **sklearn**
Java: Programmed games (e.g., Minesweeper, Maze and Match It)
JavaScript, SQL, C#: Implement courses designs