Jiahe (Grace) Liu

GitHub   Personal Web   LinkedIn   61-499720925   jiahe3@student.unimelb.edu.au   WeChat: gracelovesyah

EDUCATION

The University of Melbourne	2023.03 - 2024.12
Master of Data Science	*Current WAM: 76.5*
The University of Melbourne	2020.08 - 2022.12
Bachelor of Science in Data Science	*WAM: 72.7*
Washington University in St. Louis (Post-master's Certificate)	2023.08 - 2023.12
Artificial Intelligence Applications for Health Data	
Stanford University (Summer Workshop)	2022.08 - 2022.08
ICME Summer Workshops 2022: Fundamentals of Data Science	
University College London (Exchange Study)	2022.07 - 2022.8
Short Term Exchange: Business Psychology	

RELEVANT COURSEWORK

Courses: Statistical Machine Learning, Machine Learning for Health, Cloud Clustering Computing
Awards: Mobility Award

EXPERIENCE

Monash Public Health and Preventive Medicine | *Research Assistant*   2023.07 - Present

- **Project Overview:** Focused on the impact of air pollutants on human health, encompassing literature review, statistical analysis, and manuscript preparation.
- **Literature Review & Writing:** Reviewed literature on the sensory impact of PM2.5 on humans. Authored and co-authored manuscripts to share research insights with the scientific community.
- **Statistical Analysis:** Employed multilevel logistic regression to unravel the complex interplay between environmental factors and health outcomes. Expertise in statistical modelling using STATA and Python to derive meaningful public health insights.

WEHI Medical Research | *Data Science Research Intern*   2023.11 - 2024.02 (expected)

- **Project Goal:** Develop a framework for evaluating the suitability of third-party for complex cryo-EM processing.
- Will review cryo-EM data transfer and storage, and enhance scripts and tools for the cryo-EM community.
- Will set up and test these scripts and tools to benchmark speed, maintainability, and extensibility.
- Will provide recommendations and suggestions for potential future projects.

BOE Technology | *Campus Ambassador at Overseas Recruitment Department*   2021.01 - 2023.12

- **Experience Overview:** Represented the brand overseas, spearheading initiatives at various institutions. Managed regional communities, coordinated 3 online and offline events at Australian Universities. Conducted market research on local employment trends and academic institutions.
- **Seasonal Recruitment:** Posted 100+ recruitment details on university platforms and built relationships with university career offices. Utilised LinkedIn Talent Solutions for Spring and Fall overseas recruitment, sourced 5000+ candidates.
- **Ambassador Recruitment for 2022 & 2023:** Produced 2 vlogs showcasing the BOE Campus Ambassador role, receiving 10,000 view exposure. Conducted 10+ interviews for upcoming Campus Ambassador positions.

CITIC Securities | *Business Department Intern*   2022.12 - 2023.02

- **Experience Overview:** Rotated across Fortune, Investment Advisory, Securities Finance, and Retail Departments. Acquired knowledge of the securities industry, company products, and analytical methods.

- **Key Contributions:** Fortune Department: Authored a report on China's securities industry. Investment Advisory: Analysed China's open-border policies and researched the photovoltaic industry. Retail Department: Conducted a fund analysis on fund 110023.

Max Language | *Essay Tutor*   2019.08 - 2021.01

- **Experience Overview:** Equipped students with essay writing skills, emphasising argument formation, logical reasoning, and critical thinking. Introduced students to foundational knowledge in western history and philosophy.
- **Tutoring Highlights:** Covered Western history & philosophy topics from Ancient Rome to the Contemporary Period. Engaged 20+ students in discussions on key philosophical and historical themes, such as human rights, free will, and social structures.

PROJECTS

AIDetect | *Pytorch, Tensorflow, Python, Git, Google Collab, VS Code*   2023.08 - 2023.09
- Developed a deep learning based NLP model to distinguish human and machine-generated text
- Experimented and compared several binary classifiers' performance: XGBoost, Logistic Regression, Random Forest, SVM, Recurrent Neural Network, Multi-layer Perceptron
- Achieved 85% test accuracy, ranking 3/92 on Kaggle competition

HappinessMining | *Melbourne Research Cloud, Docker, Mastodon API, Git, CouchDB, React, Ansible*   2022.04 - 2022.06
- Performed sentimental analysis across Australia and global population using data from Twitter and Mastodon
- Collected and distributed social media data across multiple instances on the Melbourne Research Cloud
- Conducted sentiment analysis using NLP, focusing on reasons, locations, and times associated with happiness
- Developed a full-stack web application that automatically refreshes our analysis based on the most recent social media posts

SmartRent | *Spark, Realestate API, Python, Flask, Git*   2022.08 - 2022.11
- Developed a full-stack web application for recommending the most liveable suburbs based on user's needs
- Experimented with Realestate API's Access Tokens and web scrapping to retrieve rent price-related data
- Analysed rental price determinants and predicted suburbs with the highest growth rates using machine learning

Diabetes@Home | *MongoDB, Postman, Node.js, JavaScript, Figma, Git, Heroku*   2022.03 - 2022.05
- Designed the web application's front-end to record clinician notes and medication reminders for diabetes patients, with a responsive layout adaptable to laptops, iPads, and phones
- Utilised modern design tools to create interactive prototypes, crafting intuitive and user-friendly interfaces
- Worked closely with back-end developers to ensure seamless integration and data flow

SKILLS

Languages: Python, Spark, SQL, C, C#, JavaScript, React, HTML/CSS, LaTeX
Domains: Data Engineering, Big Data Analysis, Machine Learning, Deep Learning, Web Development, Game Development, Cloud Computing
Tools: GitHub, R, STATA, MATLAB, MySQL, MongoDB, CouchDB, VSCode, Node.js, Unity

PUBLICATIONS

Paper

- "Study on the mental health status and its influencing factors among middle school students in Yi nationality areas: a case study of Xide County, Liangshan Prefecture, Sichuan Province", 2023, *Sichuan Mental Health*, with W. Shi

- "The Longitudinal Association between PM2.5 and Sensory Impairment", with K. Ju (working in progress)

- "Investigating Spatiotemporal Trends Linking Fine Particulate Exposure to COVID-19 Cases in the U.S.", 2023, with S. Liu (working in progress)

- "Youth Development Qualities and Their Impact on Mental Well-being During the COVID-19 Era in China", 2023, with S. Liu (working in progress)

Patent

- Utility Model Patent: A Multi-gear Flow-limiting Water-saving Faucet, 2017, *State Intellectual Property Office of the People's Republic of China*