Haohui LU
Mobile: +61 430 189 408 | Email: haohui.lu@sydney.edu.au

Education

The University of Sydney, Australia
Doctor of Philosophy, Data Science
Supervisors: Shahadat Uddin, Matloob Khushi
July 2020 -

The University of Sydney, Australia
Master of Data Science
Feb 2020 – July 2020 (Transferred to Higher Degree Research)

The University of Sydney, Australia
Graduate Certificate in Data Science | Distinction
Feb 2019 - Nov 2019

The University of Sydney, Australia
Master of Project Management - Project Economic and Scheduling Control | Distinction
Mar 2012 - Nov 2012

The University of Sydney, Australia
Bachelor of Commerce - Operations Management and Decision Science | Credit
Mar 2009 - Nov 2011

Work Experiences

The University of Sydney
Casual Academic (July 2020 -)
- Tutoring and marking for PMGT6867, Quantitative Methods: Project Management

Peer Support Advisor (Jun 2021 -)
- Assist students with a range of enquiries, ranging from what support services the university offers to what social activities a student can join

Australian and New Zealand Banking Group (Sydney, Australia)
Personal Banker, Accredited Lender (July 2016 – April 2020)
- Provide a full range of professional sales advice to help customers achieve their financial needs and goals. Explain lending products' fees, interest, and current campaigns to the customer, ensuring that the products meet customers' needs.
- Actively seek opportunities to make appropriate customer referrals to accredited specialists. Contribute to overall branch profitability, achieving and seeking to outperform against targets.
- Tier 2 Personal Advice, Personal lending, and small business accreditation.

Dynamic Payment Pty Ltd (Sydney, Australia)
Project Administrator/ Business Analyst (August 2012 – July 2016)
- Identifying fraudulent activity and taking the necessary action for escalation and analysing unstructured and structured data to build behaviour models and predictive models.
- Contributes essential administrative support to coordinate a technical team. Revised business performance metrics in collaboration with IT, which increased transparency on sales key factors.
- The duties of a project administrator include all aspects of facilitating a project: scheduling meeting times and locations, taking meeting minutes, enhanced business data visualisation for the weekly presentations and arranging training for staff.

The University of Sydney
Excel Helper (March 2011 - Dec 2011)
- Lab and workshop demonstrating.
- Assist students during computer labs use the Excel program and in using that program to answer the questions for the lab.

Key Skills

- General-purpose programming languages (Python)
- Statistical/Mathematical packages (R, Matlab, SAS, Stata, SPSS and Excel VBA)
- Relational databases (MySQL, Postgres, SQL Server, etc.)
- BI/data visualisation tools (Power BI, Tableau, etc)
- Language: English (professional proficiency), Cantonese and Mandarin (native)

Research experiences

Australian and New Zealand Banking Group (Sydney, Australia)
Virtual Data Analyst Internship – Data@ANZ Program
- Explore correlations between customer attributes.
- Predict Customer Behaviour with Machine Learning.

The University of Sydney (Sydney, Australia)
Property Profile Report Project
- Apply various machine learning techniques, including lasso regression and ridge regression.

Chronic Disease Prediction Using Graph Machine Learning
- Proposing a new framework based on graph theory.
- Apply machine learning and AI-based techniques to predict chronic diseases and/or their comorbidities.

Publications

Uddin, S., Wang, S., Lu, H., Khan, A., Hajati, F., & Khushi, M. (2022). Comorbidity and multimorbidity prediction of major chronic diseases using machine learning and network analytics. Expert Systems with Applications, 117761.

Uddin, S., Lu, H., Khan, A., Karim, S., & Zhou, F. (2022). Comparing the Impact of Road Networks on COVID-19 Severity between Delta and Omicron Variants: A Study Based on Greater Sydney (Australia) Suburbs. International Journal of Environmental Research and Public Health, 19(11), 6551.

Uddin, S., Haque, I., Lu, H., Moni, M. A., & Gide, E. (2022). Comparative performance analysis of K-nearest neighbour (KNN) algorithm and its different variants for disease prediction. Scientific Reports, 12(1), 1-11.

Uddin, S., Wang, S., Khan, A., & Lu, H. (2022). Comorbidity progression patterns of major chronic diseases: The impact of age, gender and time-window. Chronic Illness, 17423953221087647.

Uddin, S., Khan, A., Lu, H., Zhou, F., & Karim, S. (2022). Suburban Road Networks to Explore COVID-19 Vulnerability and Severity. International journal of environmental research and public health, 19(4), 2039.

Lu, H., Uddin, S., Hajati, F., Khushi, M., & Moni, M. A. (2022). Predictive risk modelling in mental health issues using machine learning on graphs. In Australasian Computer Science Week 2022 (pp. 168-175).

Lu, H., & Uddin, S. (2022). A disease network-based recommender system framework for predictive risk modelling of chronic diseases and their comorbidities. Applied Intelligence, 1-11.

Lu, H., Uddin, S., Hajati, F., Moni, M. A., & Khushi, M. (2022). A patient network-based machine learning model for disease prediction: The case of type 2 diabetes mellitus. Applied Intelligence, 52(3), 2411-2422.

Lu, H., & Uddin, S. (2021). A weighted patient network-based framework for predicting chronic diseases using graph neural networks. Scientific reports, 11(1), 1-12.