

Bingtao(Aaron) Zhao

MASTER OF INFORMATION TECHNOLOGY AND INFORMATION TECHNOLOGY MANAGEMENT

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Summary

Hi! I am a recent graduate of the University of Sydney with a Master's degree in IT & IT Management. My journey in the IT field began during my bachelor's studies, where I focused on programming in Python and Java. Along the way, I gained valuable experience in Data Analytics, Networking, Machine Learning, and SQL. I am open-minded, adaptable, and thrive on learning new concepts, unafraid of challenges or pressure. Currently, my working visa is valid until October 2028.

Education

Univeristy of Sydney

Sydney, Australia

MASTER IN IT & IT MANAGEMENT

Feb. 2020 - Aug. 2023

- Area of Study focused on Data Management and Analytics.
- Major Courses: Data Analysis with RStudio, Natural Language Processing, Visual Analytics, Machine Learning and Data Mining, Advanced Topics in IT Project Management

Soochow University

Suzhou, China

BACHELOR IN SOFTWARE ENGINEERING

Sep. 2014 - Jun. 2018

- Major course: Java Program Design, Software System Analysis and Design, Linux system, Computer Network and Security

Project Experience

Identifying items using machine learning methods

Sydney, Australia

MACHINE LEARNING AND DATA MINING

October, 2020

- The research aims to classify a dataset with 30,000 training instances and 5,000 test instances, with labeled data for the initial 2,000 tests. Tasks involve coding the classifier, data processing, and comparing KNN, Naive Bayesian, and Logistic Regression methods. This project assesses both fundamental knowledge and coding proficiency in machine learning classification.
- I utilized Principle Component Analysis (PCA) for data preprocessing, reducing test data dimensions from 5000x784 to 5000x84 and training data from 30000x784 to 30000x84 for enhanced computational efficiency. Employing a for loop for the K-Nearest Neighbor (KNN) algorithm with varying K values increased accuracy from 82.65% to 84.36%. The Naive Bayes classifier, using a Gaussian model and resampling techniques, achieved optimal performance with 10 datasets, yielding 78% accuracy. Logistic regression, a generalized linear regression model, demonstrated an accuracy of approximately 83.4% with the shortest time consumption of about 3.84 seconds among the three methods.

Research Project - What factors explain support for gun control in the United Ststes

Sydney, Australia

DATA ANALYSIS IN THE SOCIAL SCIENCES

July, 2021

- The goal of this research project is to evaluate an individual's proficiency in data analysis, covering problem research, data resource collection, sorting, and cleaning. It includes a detailed discussion of factors influencing the identified problem and an assessment of data analysis capabilities. The specific objective is to determine factors accurately predicting gun control scores through factor analysis. The chosen dataset for analysis is the General Social Survey conducted by NORC at the University of Chicago from 1972 to 2016, obtained through the Social Sciences National Data Program.
- I conducted my research primarily using RStudio and Python. The dataset underwent preprocessing, including coding questionnaire responses and processing blank data to create dependent variables. Independent variables analyzed include the importance of gun laws, access to legal information, significance of gun control, and impact of crime on residents. To understand data characteristics, I calculated concentration and dispersion properties using mean, standard deviation, and variance. Inconclusive initial results led to a detailed analysis using a linear regression model, indicating that access to legal information and the impact of crime on residents support the development of gun control.

Visual Analytics for Mobile Device Market

Sydney, Australia

VISUAL ANALYTICS

May, 2021

- The provided data is analyzed using visualization techniques to uncover underlying patterns in the market. We address key questions such as identifying devices indicative of different periods, determining companies contributing to and leading the new market, and assessing which company can be considered the most successful in market leadership. Various visualization methods are employed to explore potential solutions and gain insights.
- The original dataset includes nominal, ordinal, and quantitative data, with normalization applied to quantitative attributes. Despite broken links, we derived missing company information from model names. New dimensions—Processing Ability, Portability, and Display—were introduced for initial analysis, visualizing market trends. Standard deviations of these dimensions over time reveal market variety and changing trends.

AI-guided financial trading

Sydney, Australia

RESEARCH PROJECT

July, 2023

- This project uses historical price data from major currency pairs and commodities, integrating technical analysis indicators. It explores deep learning methods—LSTM, CNN, Wavelet, Transformer, GAN, and CNN + Bi-LSTM + Attention—for market price prediction. Proposed models combine these methods, and one is selected for further development. The project centers on research, model selection, development, and evaluation processes of deep learning models.
- After testing the data using the model, the trading logic for the model is as follows: If Last close > close & predict - buy buffer > close, then buy. If Last close < close & predict + sell buffer < close, then sell. Otherwise, hold. Additionally, if there are consecutive buy/sell signals and the profit and loss (PL) is greater than 0, increase profit taken by 2% and stop loss by 50%.
- After comparing the results, the Transformer and TCN models achieved the top 2 positions, with Win/Lose ratios of 1.74 and 1.81, respectively. Among them, the Transformer model had the highest Average Profit per Trade at 5.91 pips. However, it also exhibited the highest maximum drawdown, reaching -300 pips.

Dynamic Web development

Sydney, Australia

INDIVIDUAL PROJECT

November, 2023

- This project is a functional webpage that I developed in my spare time. The webpage link is placed at the top of the resume.
- I developed the webpage using HTML, CSS, and incorporated some JavaScript.

Other Experience

HR Department of SUCSA

Sydney, Australia

STAFF MEMBER

Feb. 2020 - April. 2022

- Sydney University Chinese Student Association (SUCSA) is the largest student self-governing organization at the University of Sydney
- Played a vital role in administrative and management support within the association, such as departmental personnel management, attendance management, etc.
- Collaborated with various departments to streamline event coordination.
- Actively contributed to the smooth execution of student activities.

University of Sydney Union

Sydney, Australia

VOLUNTER

2023

- Maintain the order of event
- Collaborate with other volunteers to ensure the successful of student event

Unmanned Aerial Vehicle (UAV) Research Group

Suzhou, China

TEAM LEADER

2015 - 2016

- Responsible for the day-to-day management of the group.
- Maintenance and upkeep of unmanned aerial vehicles (UAVs).
- Completion of tasks assigned by the supervisor.
- Exploring new applications for unmanned aerial vehicles (UAVs).

The College Student Union

Suzhou, China

PRESIDENT

2016 - 2017

- Take full responsibility for the role within the Student Union and play a pivotal role in various student organizations.
- Oversee the affiliated departments of the Student Council and manage student interest clubs, organizing student activities and providing assistance to teachers.
- Coordinate the activities of diverse departments and collaborate with other student organizations to organize events and activities.
- Offer guidance and advice to facilitate the organizational development.

Key Skills and Certificate

Technical Proficiencies:

- Programming Languages: Python, Java.
- Data Management and Analysis: R, SQL.
- Web Technologies: Familiarity with HTML, CSS, Javascript.
- Software Tools: VScode, Tableau, Rstudio, PyCharm, Atom, office software and photo & video editing applications.
- Networking: Knowledgeable in Routing and Switching.

Certified Network Assistant of H3C

Nanjing, China

ROUTING & SWITCHING

Nov. 2018

- H3C is a subsidiary of 3Com and holds a significant position in the field of routing and switching in China.

Certificate of Computer Information Technology Testing

Suzhou, China

NETWORK TESTING

Jul. 2015

- Involves the maintenance and testing of networks
- Diagnosis and repair of network issues