

Youran(Echo) Zhou

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Summary

PhD Candidate in Data Science specializing in data imputation with a solid foundation in Statistics, Computer Science and Natural Language Processing. Four years of tutoring experience have sharpened my proficiency in Python and SQL, with a particular strength in data visualization and interpretation using tools like pandas, NumPy, and Matplotlib. Distinguished in previous projects and work, I possess exceptional report writing and communication skills, adept at translating complex data into clear, actionable insights. Passionate about leveraging my analytical expertise to develop AI solutions that drive strategic decision-making

Education

Deakin University

Doctor of Philosophy

Geelong, AU

Dec 2022 - Dec 2025

- **Thesis Topic:** Developing robust methods to handle missing data in real-world applications effectively
- **Areas of Study:** Generative Models, Statistical Learning, Machine Learning, Deep Learning

University of Melbourne

Master of Data Science

Melbourne, AU

Mar 2021 - Dec 2022

- **Thesis Topic:** Synthesizing tabular data via Selectivity enhanced Generative Adversarial Networks
- **Areas of Study:** Natural Language Processing, Computer Vision, Statistical Modelling, Artificial Intelligence, Database System, Machine Learning in Health Application
- **WAM:** 82/100

University of Melbourne

Bachelor of Science (Data Science)

Melbourne, AU

Mar 2018 - Dec 2020

- Achieved 86% in the capstone subject Applied Data Science
- **Areas of Study:** Machine Learning, Artificial Intelligence, Algorithms and Data Structure, Probability, Statistics, Database System

Experience

Digital Research Trainer

Intersect Australia Limited

Melbourne, AU

JUL 2023 - Present

- Delivered high-quality training in Data Science and Machine Learning using Python, R, and Excel, focusing on engaging and comprehensive content
- Effectively engaged diverse academic audiences, tailoring teaching methods to varied skill levels and increasing interactivity with exercises
- Collaborated with training teams for continuous course improvement, efficiently handled participant queries, and promoted course evaluation feedback

Academic Tutor

The University of Melbourne

Melbourne, AU

Mar 2022 - Present

- Tutoring third-year Artificial Intelligence, Data Science Capstone Project subject and Master Level Statistics at a highly reputable university
- Provided weekly tutorials for 12 teaching weeks both online and face to face
- Refined ability for professional communication through continued interaction with cohort of 300 students and team of academic staff
- Delivered routine consultation sessions and continuous support to students through online discussion forums

Data Scientist

Walter and Eliza Hall Institute of Medical Research

Melbourne, AU

Nov 2021 - Jan 2022

- Identified and integrated 2-year historical and current data from different systems
- Produced 2 interactive data visualization dashboards of storage and cost data through Power BI and Data Studio
- Constructed and tested models of future growth based on historical data and upcoming trends deploying over 3 statistical or machine learning models include regressions and time series models

Private Tutor

CPU Education

Melbourne, AU

Mar 2020 - Present

- Expertly designed and delivered tutorials in both one-on-one and large class settings, covering mathematics & statistical modeling, Python & R programming, data analysis & visualization, and machine learning
- Demonstrated proficiency in engaging students across diverse learning environments, achieving high satisfaction rates in both individual and group settings through interactive and practical learning approaches
- Continuously updated and adapted teaching materials to reflect the latest trends in data science, ensuring relevance and effectiveness in both personalized and larger educational contexts

Relevant Project Work

Synthesizing tabular data using Selectivity enhanced GAN

University of Melbourne

Jun 2021 - Jul 2022

- Designed a flexible method for generative adversarial networks to generate fake tabular data to satisfy selectivity constraints
- Improved current data-preprocessing methods, added additional neural network selectivity estimation model to enhance data enrichment
- Proposed method outperform among 4 SOTA models in a complete evaluation metric system including visual, machine learning utility and selectivity in 5 real world data sets
- **Technical Skills:** Python, PyTorch, TensorFlow, Cloud Computing, Numpy

Rumour Detection and Analysis on Twitter

University of Melbourne

Apr 2021 - May 2021

- Developed a Twitter rumour detection system(Text Classification) with BiGCN and BiRNN (BiGRU, BiLSTM) models, leveraging NLP techniques like Bag of Words and BERT for enhanced text preprocessing and feature engineering
- Analyzed and classified over 8000 COVID-19 related tweets, applying advanced sentiment analysis and hashtag tracking. Utilized libraries like pandas and NumPy for data analytics, and Matplotlib for visualizations, demonstrating strong data interpretation and pattern recognition skills
- Played a key role in a 3-member team, leading effective communication and strategy development. Authored comprehensive project reports, illustrating complex NLP concepts clearly and effectively, showcasing robust communication and technical writing abilities
- **Technical Skills:** Natural language processing, Python, TensorFlow, NLTK, Matplotlib, Numpy

New York City Taxi Analysis

University of Melbourne

Jul 2020 - Nov 2020

- Aggregated over 100 million New York taxi data was collected in 2018 to do analysis and provided strategies to all related stakeholders
- Applied a spatial visualization based on Geopandas and folium library. Conduct three statistical models to estimate tips paid by customers using R, archived over 95% accuracy
- **Technical Skills:** Python, R, pyspark, scikit-learn, GeoPandas, Matplotlib, Folium

Volunteer and Extra-Curricular Activity

Peer Mentor

Melbourne, AU

The University of Melbourne

Oct 2021 - Dec 2022

- Organised sessions fortnightly with a group of over 20 first-year undergraduate students alongside a fellow peer mentor
- Assisted in transition to university, including guiding in building social connections and navigating student services

Student Representative

Melbourne, AU

The University of Melbourne

Jul 2022 - Nov 2022

- Student representative for Subject *Machine Learning Applications for Health*
- Provided an accurate picture of student opinions and to be bridge between class and lecturer, ensuring feedback is made available to lecturer in a timely fashion

Speaker at Student Symposium Event

Melbourne, AU

Walter and Eliza Hall Institute of Medical Research

Sep 2022 - Sep 2022

- Invited to a Student Symposium Event to presented internship experience at WEHI in as an outstanding intern
- Authored 15 minutes presentation for present on project experience, demonstrated skills applied throughout project
- **Access to Speech Recording**

Skills

Programming	Python R SQL JavaScript
Python Libraries	Pandas Numpy Matplotlib Scikit-learn TensorFlow Pytorch
Visualisation	Tableau Microsoft Power BI Google Data Studio
Cloud Platforms	BigQuery Pyspark Spartan AWS
Technical	Git Slurm LaTeX Microsoft Office Suite (Word, PowerPoint, and Excel)
Languages	English Mandarin

Credentials, Licenses and Awards

- 2022 **Melbourne Global Graduate Scholarship**, The University of Melbourne
- 2022 **Leaders in Communities Award (LiCA)**, The University of Melbourne
- 2022 **Study Melbourne Leadership Labs: Volunteer to Lead 2022**, Victorian Government
- 2021 **Google Data Analytics Specialization**, Google
- 2021 **Deep Learning Specialization**, DeepLearning.AI
- 2021 **Working With Children Check**, Victorian Government