Tan Zheng Jie (Singaporean)

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GitHub: https://github.com/tzjZhengJie/DataAnalyst_Project | Website: https://tzjzhengjie.github.io/resumeweb/

SUMMARY

Electrical and Electronics Engineering graduate with data analysis experience, demonstrated through side projects and competition. Proficient in SQL, Python, and Excel, with strong skills in data modelling, ETL processes using Python, and business intelligence tools such as Power BI and Tableau. Completed personal projects ranging from web application development—using frontend tools like HTML, CSS, and JavaScript—to machine learning applications, including predictive, regression, statistical and classification analysis.

EDUCATION

Nanyang Technological University   *Aug 2021 – Jun 2024*

· **Bachelor of Engineering, Honours (Electrical and Electronic Engineering)**
· **Specialisation: Info-Communication Engineering (Data Intelligence & Processing, Computer Engineering)**
· Relevant Modules: (1) Database Systems (2) Artificial Intelligence & Data Mining (3) Pattern Recognition & Deep Learning (4) Machine Learning Design & Application (5) Introduction to Data Science & AI

PROFESSIONAL CERTIFICATES

· Google Advanced Data Analytics Specialisation	· Google Data Analytics Specialisation	· Google Business Intelligence Specialisation

KEY SKILLS

· SQL (MySQL)	· Machine Learning	· Tableau
· Python	· Power BI	· Excel

RELEVANT EXPERIENCE

Google-NTU Tech4Tomorrow Hackathon   *Mar 2024*

Research on the social impact of economic uncertainty by developing a resume-job matching platform targeting retrenched middle-aged professionals.

· Led a team of 5 members from the entire project lifecycle, including web scraping, data cleaning, job-matching algorithm, and prompt engineering to develop a one-stop career portal web app.
· Leveraged tools such as **Vertex AI — Large Language Model, Prompt Engineering, Natural Language Processing and Classification** to develop a use case.

Significant Highlights

· Our team entered the **finalist** round and emerged as the **second runner-up**.

Final Year Project, Enhancing portfolio's performance with S-REIT Analysis   Jan 2024

The aim is to maximise the portfolio's returns, consisting of Singapore REIT stocks by generating a strategy that potentially outperformed the general index market with various analyses.

· Explored Qualitative and Quantitative approaches, including Fundamental, Technical, and News Analysis.
· Employed **Python** for portfolio optimisation, leveraging libraries such as **Pandas, NumPy, and Matplotlib**.
· Applied Pinescript to generate trading strategies, and Google Excel for DCF dashboard creation.

Significant Highlights

· Achieved an **A- grade** for a comprehensive market analysis by leveraging a combination of financial skills and programming knowledge.

Introduction to Data Science & AI, Cardiovascular Disease Prediction   Jan 2023

The project aims to utilise **Python** and use significantly correlated variables such as blood pressure, cholesterol levels, age, fitness, etc, to predict the probability of developing cardiovascular disease.

· Led the data cleaning, preprocessing, feature engineering and visualisation of the dataset from Kaggle.
· Assisted with supervised machine learning tools such as Linear Regression, Logistic Regression, Gaussian Naïve Bayes, and Decision Tree.

INTERNSHIP EXPERIENCE

Software Engineer (Robotics)   *Jun 2022 – Dec 2022*
ST Engineering Land System Ltd

Implemented ROS Stack with C++ and Python to develop a real-life self-navigating drone.

· Utilised Excel and ROS to analyse data provided by UWB and optimised for better performance.
· Implemented sensors for navigation/localisation (e.g., IMU, UWB, GNSS receivers, RTK/GPS, Lidar, 3D Camera).
· Applied C++ with Qt application and **Python** on Linux OS (Ubuntu).

Significant Highlights

- Awarded the "**Best Intern"** for exceptional performance—enhanced project efficiency by 30% by optimising robotics software and reducing hardware components through efficient electrical design, allowing the project to be completed ahead of schedule.

Robotics Engineer *Sep 2018 – Feb 2019*
ST Engineering Land System Ltd
Selected by the lecturer to work on a collaborative internship project between ST Engineering and Ngee Ann Polytechnic to construct a following-user feature and self-balancing rover.
- Applied C Programming (Arduino IDE) with PID algorithm and IMU sensor.
- Integrated and synchronised C++ with 3D camera.

ACADEMIC PROJECTS

1.   Web Application Design, Web-Development
Created an e-commerce platform focused on fruit products. Implemented user authentication, validation, product catalogue, shopping cart, checkouts, and admin panel features. Successfully concluded the entire backend development process, incorporating MySQL for database creation and utilising PHP to facilitate communication between the backend scripts and the database.
- Applied HTML/CSS, PHP, JavaScript, **MySQL**

2.   Design & Innovation Project, Stock Trading with Machine Learning
The project aims to utilise FinRL Library, which does passive trading with Machine Learning, testing different methods and algorithms to find the best annual/cumulative returns performance—tested data such as the US Stock market.
- **Applied Python**

CO-CURRICULAR ACTIVITIES

Ngee Ann Polytechnic, *Engineering School Ambassador*
- Participated in and facilitated events and camps by the School of Engineering.
- Introduced School of Engineering to students and first-year students.

Youth Expedition Programme, *Volunteer*
- Engaged and provided educational training to children in Baray District, Cambodia
- Involved in social activities (e.g., school housekeeping and repainting)
- Collated donated clothes and stationery to distribute to two orphanages.

NATIONAL SERVICE

Singapore Armed Forces
- Involved actively in various portfolios (e.g., Social Media Publicity, External Relations, Work Delegation, Team Dynamics Formation).
Significant Highlights
- **Best Soldier of the Month "November 2020" awardee**
- Assumed the role of Overall-In-Charge for the 2nd People's Defence Force's Media Team.
- Assumed the role of video producer for contribution to the **Army Appreciation Dinner 2021**.

SKILLS

- **Languages:** Fluent in English and Chinese (Mandarin)
- **Software Programming:** Python, R, MySQL, C, C++, HTML/CSS, PHP, JS
- **Libraries:** Pandas, PyTorch, NumPy, Scikit-learn, Matplotlib
- **Visualisation Tools:** Power BI, Tableau
- **Development Tools:** Jupyter Notebook, VSCode, Anaconda, CodeBlock, Arduino IDE, LabVIEW
- **Software Application:** Microsoft Excel, Words, Office, AutoCAD, Adobe Premiere Pro, Adobe Lightroom
- **OS:** Windows, Linux

WORK EXPERIENCE

- **ST Electronics (e-Services) Pte Ltd, *Technical Document Developer***
- **Honestbee Pte Ltd, *Administrative Assistant***