

Tan Zheng Jie (Singaporean)

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

EDUCATION

Nanyang Technological University

Aug 2021 – Jun 2024

- **Bachelor of Engineering, Honours (Electrical and Electronic Engineering)**
- **Double 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 (6) Computer Communication (7) Digital Signal Processing

Ngee Ann Polytechnic

Apr 2016 – May 2019

- **Diploma in Electrical Engineering (Power Engineering)**

PROFESSIONAL CERTIFICATES

- Coursera- Google Advanced Data Analytics Specialisation (2023)
- Coursera- Google Data Analytics Specialisation (2023)
- Coursera- Google Business Intelligence Specialisation (2023)

INTERNSHIP EXPERIENCE

ST Engineering Land System Ltd, Software Engineer (Robotics)

Jun 2022 – Dec 2022

- Awarded with the “**Intern@ST**” award for outstanding performance.
- Assisted engineers in the implementation of the ROS/ROS2 navigation stack.
- Implemented sensors for navigation/localisation (e.g., IMU, UWB, GNSS receivers, RTK/GPS, Lidar, 3D Camera).
- Experienced with simulations such as Rviz and Gazebo.
- Applied C++ with Qt application on Linux OS (Ubuntu).

ST Engineering Land System Ltd, Robotics Engineer

Sep 2018 – Feb 2019

- 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.

COMPETITION

GOOGLE-NTU Tech4Tomorrow Hackathon

Mar 2024

- **Led a team** of 5 members in research on the social impact of economic uncertainty.
- Our team entered the **finalist** round and emerged in the **top 3** of 25 teams.
- Developed a resume-job matching platform targeting retrenched middle-aged professionals.
- Led entire project lifecycle, including web scraping, data cleaning, job-matching algorithm, and prompt engineering to develop a one-stop career portal web app.
- Leveraged AI such as **Vertex API, Natural Language Processing, and Classification** to develop a use case.
- The final judging panel included Google directors and a Nanyang Technological University professor.

ACADEMIC PROJECTS

1. **Final Year Project, Enhancing portfolio's performance with S-REIT Analysis**

- The aim is to maximise the portfolio's returns, consisting of Singapore REIT stocks.
- Generate 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.
- Applied **Python**, Google Excel, Pinescript

2. **Web Application Design, Web-Development**

- Created an e-commerce platform focused on selling fruit products.
- Features: user authentication, validation, product catalogue, shopping cart, checkouts, and admin panel.
- Successfully concluded the entire backend development process, incorporating MySQL for database creation.
- PHP to facilitate communication between the backend scripts and the database.
- Applied HTML/CSS, PHP, JavaScript, MySQL

3. **Introduction to Data Science & AI, Cardiovascular Disease Prediction**

- Data Analytics: data visualisation/cleaning
- Assisted with supervised machine learning tools such as Linear Regression, Logistic Regression, Gaussian Naïve Bayes, and Decision Tree.
- The project aims to use variables such as blood pressure, cholesterol levels, age, fitness, etc, to predict the probability of developing a cardiovascular disease.
- **Applied Python**

4. **Design & Innovation Project, Stock Trading with Machine Learning**

- **Role: Deep Reinforcement Learning (Agent and Algorithm research: DDPG & TD3)**
- 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

- **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**.
- Involved actively in various portfolios (e.g., Social Media Publicity, External Relations, Work Delegation, Team Dynamics Formation).

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