

# Ng Wee Chai

## Data Analyst / Scientist

Tel: +6597331257 | Email: [weechai88@gmail.com](mailto:weechai88@gmail.com)

Portfolio: <https://weechai-ng88.github.io/>

Linkedin: <https://www.linkedin.com/in/wee-chai-ng/>

## Summary

As an analytical and business-focused Data Analyst & Aspiring Data Scientist, I bring a unique perspective from my early career in architecture, where I developed a strong foundation in design thinking and problem-solving. Now transitioned into data analytics, I specialize in Python, SQL, Power BI, and machine learning. I've delivered end-to-end solutions across customer segmentation, HR analytics, and sales forecasting — transforming raw data into actionable business insights through compelling dashboards and data storytelling. Committed to continuous learning and empowering decision-making through data-driven solutions.

## Experience

Freelance Data Analyst (2024 – Present)

- Collaborated with clients and cross-functional teams to tailor dashboards to stakeholder needs
- Conducted **Exploratory Data Analysis (EDA)** on sales data to identify key business insights.
- Optimized **data quality** by cleaning missing values, correcting errors, and validating stock descriptions.
- Implemented **Trend Analysis, Customer Segmentation (RFM Analysis), and Churn Prediction** to optimize business strategies.
- **Developed interactive dashboards using Power BI, Matplotlib, and Seaborn for data storytelling.**
- Designed **HR analytics dashboards** for an interior design firm, tracking workforce trends, attrition rates, and employee performance metrics.

### Skills:

Python | SQL | Google Colab | Pandas | Data Cleaning | Data Visualization | RFM Analysis | Churn Prediction | Trend Analysis | Business Intelligence |

Design Associate / Design Manager (2021 – 2024)

- Led client and contractor coordination, ensuring on-time project completion within budget.
- Conducted space planning & architectural drawings to optimize layouts for functionality and efficiency.
- Managed code compliance and regulatory submissions for design projects.

### Skills:

Presentation | Project Coordination | Microsoft Office | Google Sheets | Client Engagement | Power Point | Excel | Timeline Projection

## Skills

### Data Analysis & Visualization

- Power BI, Tableau, Matplotlib, Seaborn
- KPI Dashboards & Data Storytelling
- Advanced Excel (Pivot Tables, Power Query, Macros)
- Presentation with Data for Business Decision Making

### Programming & Data Processing

- Python (Pandas, NumPy, Scikit-learn)
- SQL (Data Extraction, Query Optimization)
- Google Colab, Jupyter Notebook

### Machine Learning & AI

- Classification & Regression Models (Logistic Regression, Decision Trees, Random Forest, SVM)
- XGBoost, LightGBM, NLP (Text Processing, Sentiment Analysis)
- Model Evaluation & Optimization

### Business & Communication skills

- Cross-functional Collaboration, Team Player, Independent Contributor
- Excel, Google Sheets, Power BI
- Report Writing & KPI Analysis
- Data-Driven Decision Making

## Projects

Github: <https://github.com/weechai-ng88>

### Sales Insight Dashboard – Café Company (Power BI Project)

Oct 2024 – Feb 2025, Freelance Client Project

#### Project URL :

- To track sales, customer behavior, and product performance for a café business
- Analyzed sales performance and revealed a +20.26% revenue increase over a 3-month period
- Identified loyal and churned customers to support retention strategies
- Developed an hourly sales heatmap to optimize staff scheduling and promo timing
- Highlighted top-selling products to inform inventory planning and marketing focus
- Enabled data-driven decision-making for stakeholders through clear, actionable visuals

### Sales Insights Analysis – E-commerce Company (Python Project)

#### Project URL:

- Performed end-to-end data analysis using Python (Pandas, Matplotlib, Seaborn)
- Cleaned and transformed raw sales data to uncover trends in revenue, top products, and country-level performance
- Visualized monthly sales patterns and identified seasonal spikes using bar and line charts
- Calculated churn using RFM scoring and 90-day inactivity threshold to support retention strategies

### HR Insight Dashboard – Interior Design Company (Power BI Project)

Jan 2021 – Feb 2025 (Dataset), Freelance Client Project

#### Project URL :

- Designed an interactive Power BI dashboard to analyze HR data from a growing interior design firm
- Visualized team growth, headcount trends, gender and age distribution, salary vs qualification, and leave balances
- Built custom DAX measures to calculate live headcount, attrition rate, and average leave
- Delivered insights to support workforce planning, budgeting, and employee well-being monitoring

### AI-Powered Travel Chatbot (Python, OpenAI API)

#### Project URL :

- Designed a chatbot that recommends **personalized travel itineraries** based on user budget and preferences.
- Implemented **Natural Language Processing (NLP)** for real-time responses.
- Integrated the model with a **SQL database** to fetch dynamic travel recommendations.

### HDB Resale Price Prediction Model (Machine Learning, Streamlit)

#### Project URL :

- Conducted **feature engineering and predictive modeling** using **XGBoost, LightGBM, and CatBoost**.
- Built a **Streamlit app** for real-time property price predictions.

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## Education

#### General Assembly

- Data Analytics Immersive  
June 2024 – September 2024

#### National University of Singapore (NUS)

- Master of Architecture  
August 2016 – May 2017
- Bachelor of Arts in Architecture (Honours)  
August 2013 – May 2016