

MARCUS LIANG

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SKILLS SUMMARY

- Programming: Python (Scikit-learn, NumPy, Pandas), SQL (MySQL), Java, C#, R, JavaScript.
- Machine Learning: Supervised Learning (Random Forest, XGBoost), Unsupervised Learning (Clustering), Deep Learning (PyTorch), Model Validation (PSI), ML pipelines (Databricks).
- Data Engineering / Platforms: Databricks, Apache Spark, ETL, AWS, Snowflake, ETL Pipelines.
- Data Analytics & BI: Power BI (DAX), Tableau, Vintage Analysis, Matplotlib.
- Tools: GitHub (Version Control), Excel (Advanced), UiPath.
- Soft Skills: Communication, Teamwork, Time Management, Analytical Problem-Solving, Adaptability, Continuous Learning.

EXPERIENCE

Data Scientist Intern, X Star Technology Pte Ltd, Singapore

Dec 2024 - Dec 2025

- Engineered predictive repayment models using Random Forest and XGBoost to identify loaner's patterns and flag high-risk accounts, improving loan recovery efficiency.
- Included in developing machine learning models to analyse financial and behavioural data for credit risk assessment, increasing automated approval rates by ~80%; collaborated with cross-functional teams in Beijing.
- Architected interactive Power BI dashboards visualise repayment performance and track KPIs for dealer network, supporting decision-making.
- Executed financial Vintage Analysis grouped by Months on Books (MOB) to evaluate long-term loan performance and forecast future outcomes, such as early settlements.

Cross-Border E-Commerce Intern, Shopee Singapore Pte Ltd, Singapore

Sep 2020 - Feb 2021

- Automated key operational processes using Google Sheets and email notifications, reducing manual workload by up to 10 hours per week.
- Developed and implemented SQL queries to extract and analyse critical sales data, empowering data-driven decisions on customer behaviour and sales trends.
- Conducted in-depth analysis of monthly sales data to uncover trends and visualise insights through dynamic dashboards.

EDUCATION

National University of Singapore

Aug 2023 - Present

School of Computing, Bachelor of Science in Business Analytics (Honours)

- Pursuing Machine Learning Specialisation
- Expected Graduation: Dec 2026
- Relevant Coursework: BT4221 Advanced Analytics with Big Data Technologies, BT4240 Machine Learning for Predictive Data Analytics, BT3017 Feature Engineering for Machine Learning, CS2040 Data Structures and Algorithms

Ngee Ann Polytechnic

Apr 2018 - May 2021

School of InfoComm Technology, Diploma with Merit in Financial Informatics

- Specialised in Financial Analytics
- Relevant Coursework: Deep Learning, Predictive Analytics, Applied Analytics - Finance

PROJECTS

AI Engineer, Hull Tactical: Market Prediction Competition, Kaggle

Sep 2025 - Dec 2025

- Built a machine learning-driven market timing strategy to predict daily S&P500 returns and translate forecasts into risk-controlled portfolio exposure under a 120% volatility constraint.
- Engineered time-series financial features and applied non-linear/ensemble models to capture weak and noisy market signals.
- Evaluated models using risk-adjusted performance metrics and time-aware validation, emphasising robustness, drawdown control, and real-world deployability over raw accuracy.

Frontend Engineer, Hack 4 Good 2025, Developer Group @ NUS

Jan 2025

- Developed a Vue.js-powered mini-mart enabling residents to purchase and preorder products through voucher points.
- Implemented AI chatbot (Botpress) for instant assistance and an auction system for exclusive deals.
- Designed administrator and resident interfaces to streamline product requests, point claims, and approvals.
- Integrated Firebase backend for secured data storage, real-time updates, and efficient image hosting, resolving hosting challenges and protecting sensitive data.

Lead Instructor, Python Workshop for Beginners, AMKFSC Community Services Ltd

Jul 2021

- Designed a 3-hour virtual workshop for 20 internal staff and volunteers at AMKFSC Community Services.
- Trained participants with no prior experience in programming how to install Python and introduced basic functions.
- Utilised Zoom for interactive sessions, guiding attendees through hands-on activities.

CTO, Global Entrepreneurial Internship Programme, Ngee Ann Polytechnic

Aug 2020 - May 2021

- Gained hands-on experience in a dynamic startup environment, working on key projects related to Pet Goods & Services.
- Pitched an innovative idea, Fido, to investors, showcasing a solution addressing hassle of repurchasing pet necessities.
- Collaborated with diverse teams to construct innovative solutions and contributed to scaling business operations.
- Enhanced entrepreneurial skills through direct mentorship, workshops, and networking with industry leaders.