Shuyue Hou

Tel：+86 18801036339 | Email：shou003@e.ntu.edu.sg | LinkedIn: Shuyue Hou | Portfolio: shuyue's

PROFESSIONAL EXPERIENCES

Machine Learning Engineer, Full Time   Pingan Bank Co.,Ltd., Shenzhen   **Aug 2025-Present**

✧ Statistical Modeling & Growth Analytics: Utilized **Python (Pandas)** to architect a Rate/Mix decomposition engine, quantifying key drivers behind CTR/CVR fluctuations for **$10B+** deposit growth campaigns. This analytical framework transformed business anomaly diagnosis from a multi-day process into near real-time (hours) actionable insights for operations.

✧ AI Automation & Data Visualization: Designed and deployed a GenAI-powered **(LLM/Agent)** diagnostic dashboard using Python, automating complex report generation for non-technical stakeholders. Streamlined stakeholder workflows and enhanced organizational efficiency by delivering automated, high-integrity reports through an integrated dashboard ecosystem (leveraging **Python** principles).

✧ Data Infrastructure & Reliability Engineering: Engineered a robust end-to-end ETL pipeline **(SQL & Python)** to resolve critical T0/T1 data alignment discrepancies. Implemented automated data validation protocols that guaranteed 100% data integrity and availability for core attribution models

Data Analyst, Intern   Xiaohongshu (RED), Beijing   **Dec 2023-May 2024**

✧ Strategic Bidding Optimization: Analyzed **300,000+** user search behaviors using **SQL**. Identified high-value, low-competition long-tail keywords to avoid saturated markets, formulating a differentiated bidding strategy that optimized budget allocation.

✧ Growth Analytics & Conversion Optimization: Executed a full-funnel optimization strategy based on user intent analysis, achieving a measurable **25%** boost in advertising ROI. Translated complex behavioral data into actionable tactics that scaled Q1 sales by 18%, proving the scalability of the data-driven acquisition model.

✧ Business Intelligence Automation: Developed automated performance dashboards (using **Tableau** principles) to replace legacy manual Excel workflows. This transition slashed weekly reporting turnaround time by 50% and ensured 100% data consistency for cross-functional stakeholders.

PROJECT EXPERIENCES

Financial Transaction Risk Dashboard   Link: https://public.tableau.com/app/profile/shuyue.hou

✧ Developed an interactive dashboard to analyze trends in customer retention using LOD Expressions, effectively visualizing New vs. Existing user contributions.

✧ Identified anomalies and high-risk transactions by engineering dynamic thresholding parameters and conducting Pareto Analysis, leveraging data to solve business challenges regarding resource allocation.

Ensemble Text Classification System (Python, Scikit-Learn)   Link: https://github.com/sHellzip/question_pair

✧ NLP Data Pipeline: Engineered a text processing pipeline using TF-IDF and Word Embeddings, converting unstructured raw text into vectorized features for downstream analysis.

✧ Ensemble Strategy (AHP): Implemented Analytic Hierarchy Process (AHP) to scientifically assign weights to multiple models (e.g., SVM, Naive Bayes). This ensemble approach optimized the decision boundary, improving precision/recall to over 85%.

ENTREPRENEURSHIP

Co-founder   OfferLah, Singapore   **Feb 2025-Present**

✧ Digital Transformation & Stakeholder Management: Spearheaded the evaluation and implementation of an automated scheduling platform to replace legacy manual workflows. Facilitated cross-functional alignment by establishing a "single source of truth" for consultant utilization, reducing administrative overhead by 40% and ensuring data consistency for internal stakeholders.

✧ Brand Strategy & Growth Analytics: Identified a 15% inquiry friction point via funnel analysis; spearheaded a brand-aligned UI/UX redesign that enhanced market trust and boosted lead conversion by 20%.

EDUCATIONS

Nanyang Technological University	**M.Sc. in Signal Processing and Machine Learning**	**Aug 2024-Jun 2025**
Beijing Institute of Technology	**B.Sc. in Statistics**	**Sep 2019-Jun 2023**

Relevant Courses: Advanced Algebra (94), Matrix Analysis (98), Machine Learning (98), Data Structures (91), C Programming (86)

Grades & Awards：**3.3/5.0**, **90/100**, Academic Excellence Award (2020, 2023), Red Forest Scholarship (2022)

SKILLS

Visa Status: Require Sponsorship

Languages: English (Professional), German (Intermediate), Chinese (Native)

Programming & AI: Python (Proficient), MySQL (Proficient), Java (Proficient), C, Git, Scikit-Learn, TensorFlow, LLM/GenAI

Visualization: Tableau, Power BI, Excel (VBA, Pivot Tables)