# Chan Yi Heng

+65 8862 0913 | c@chanyh.com | chanyh.com | cyh-chan | chanyiheng |

## Education

**Singapore University of Social Sciences** — Singapore, SG
*Bachelor of Science (Honours) in Mathematics* — *Jan 2022 – Dec 2025*

**Singapore Polytechnic** — Singapore, SG
*Diploma in Banking & Finance* — *Apr 2016 – Mar 2019*

## Experience

**Research Assistant** — Oct 2025 – Present
*Singapore University of Social Sciences* — *Singapore, SG*

- Engineered robust data pipelines to transform unstructured inputs into structured features, performing rigorous preprocessing to ensure high fidelity for modeling.
- Benchmarked performance across various supervised learning algorithms to maximize predictive accuracy and identify key drivers of creativity-related outcomes.
- Synthesized quantitative results into technical reports and visualizations, communicating actionable insights to guide the research team's strategic direction.

**Research Intern** — Nov 2024 – Aug 2025
*A*STAR, Advanced Remanufacturing and Technology Centre* — *Singapore, SG*

- Recipient of the A*STAR Research Internship Award (ARIA).
- Designed deep learning time-series architectures to forecast FMCG demand, enhancing the precision of inventory management logic.
- Developed a modular Explainable AI (XAI) library using SHAP values to decode complex model behaviors and validate supply chain predictions.
- Advanced the project's baseline by reproducing and refining deep learning models from literature for supply chain resilience.

**Finance Operations Analyst** — Sep 2021 – Dec 2021
*Indeed* — *Singapore, SG*

- Executed the migration of Japanese entity accounts, ensuring data fidelity and alignment with international reporting standards.
- Streamlined cross-departmental workflows within Salesforce, identifying and resolving operational bottlenecks to enhance processing efficiency.

**Finance Specialist** — Aug 2019 – Dec 2021
*Singapore Armed Forces* — *Singapore, SG*

- Managed unit-level financial operations and resource allocation, ensuring strict adherence to central government procurement protocols.
- Executed bi-annual internal audits and risk assessments, analyzing financial records to report governance gaps to senior leadership.
- Administered critical operational budgets during high-tempo periods (COVID-19 Taskforce), maintaining 100% transaction accuracy and compliance.

**Wealth Management Intern** — Sep 2018 – May 2019
*DBS Bank* — *Singapore, SG*

- Conducted operational data analysis to diagnose workflow inefficiencies, presenting actionable system enhancements to leadership.
- Enforced regulatory compliance protocols by validating sensitive Accredited Investor documentation and maintaining strict data integrity standards.

## Research

**Multivariate Time Series Forecasting for Equity Price Prediction** | *Dr. Zhou Tianyi* Jan 2025 – Nov 2025

- Developed a multi-horizon forecasting framework (1, 5, 20-day) to predict returns across a diverse portfolio of NYSE-listed equities.
- Benchmarked classical (ARIMA), deep learning (LSTM), and Transformer-based (PatchTST, N-HiTS) architectures, analyzing the predictive lift of exogenous features in multivariate settings.
- Engineered a stable feature selection pipeline using ensemble XGBoost methods (RFE, Permutation Importance) to isolate high-signal technical indicators.
- Integrated Explainable AI to interpret complex multivariate dependencies, providing transparency into the directional impact of market indicators.
- Validated model robustness via rigorous walk-forward backtesting over a one-year horizon, ensuring consistent sector-agnostic performance.

**Data-Driven Framework for Enhancing Supply Chain Resilience** | *Dr. Liu Ning* Nov 2024 – Aug 2025

- Engineered End-to-End (E2E) deep learning architectures for inventory optimization, contrasting them against traditional Predict-Then-Optimize (PTO) frameworks.
- Implemented a Deep CNN with dilated temporal convolutions to capture long-range dependencies, and a Multi-Quantile RNN (MQRNN) to generate probabilistic forecasts for decision-making under uncertainty.
- Developed a stochastic simulation engine to generate synthetic inventory data, modeling variable lead times and demand distributions across multiple SKUs to ensure training robustness.
- Demonstrated superior total cost reduction compared to industry-standard heuristics (Fixed-Order-Quantity, Order-Up-To), validating the efficacy of direct cost-function optimization.
- Authored a comprehensive technical report detailing methodology and quantitative results, presenting findings to the research team to guide future implementation.

## Competency

**Languages & Scripting**: Python, R, SQL, LaTeX
**Development & Tools**: Git, VS Code, Visual Studio, Jupyter
**Spoken Languages**: English (Fluent), Mandarin (Native)