

JESSICA JIA HUI TING

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY

Atlanta, GA, United States

Master of Science, Analytics (GPA: 4.00/4.00)

2024-2025

- Coursework: Operations Research for Supply Chains (Linear Programming, Optimization), Machine Learning, Data and Visual Analytics, Graduate Algorithms, High-dimensional Data Analytics (Splines, Image, Tensor Analysis), Deep Learning (CNNs, RNNs, Attention, Transformers, PyTorch)

NATIONAL UNIVERSITY OF SINGAPORE

Singapore

Bachelor of Social Sciences, Economics (Honors), Highest Distinction (GPA: 4.88/5.00)

2015-2019

- Specialization: Quantitative Economics; Minor: Statistics, University Scholars Program
- Honors Thesis: "Dynamic Conditional Score Models: Forecasting Volatility of Exchange Rates"
- Awards: Dean's Scholars List (Top 1%, 2 semesters), Dean's List (Top 5%, 4 semesters); University Scholars Program Honor Roll (2016), Senior Honor Roll (2017), President's Honor Roll (2019)

WORK EXPERIENCE

MINISTRY OF TRADE AND INDUSTRY

Singapore

Senior Economist (Economic Issues and Insights/Growth Income and Productivity Unit)

May 2020-Aug 2024

- Drove data-intensive research using causal inference and statistical modeling (STATA, R) to support evidence-based policy; partnered with cross-agency teams to deliver high-impact insights. Key projects:
 - Estimated [wage effects of university cohort expansions](#) using cohort-based DiD to inform education policy
 - Analyzed R&D and innovation patterns from administrative and survey data; applied dynamic panel models to uncover public-private R&D spending relationships to support innovation policy
 - Identified [productivity drivers](#) (e.g., [intangible assets](#)) using shift-share and growth accounting decomposition; automated analytical pipelines for updating similar analyses
 - Built Tableau dashboards to monitor labor market trends during COVID-19 for quicker policy response
- Developed macroeconomic assumptions and scenarios for national long-term infrastructure planning
- Mentored interns on econometric, coding, and applied policy work; supported annual Budget and COS processes

PROJECTS

SLB – Knowledge Extraction Pipeline & Prompt Automation (Practicum Project)

- Contributed to a modular data pipeline for extracting and structuring technical document content using OCR, pdf2image, pypdf, and layout-aware models, supporting LLM-based document querying
- Designed a Cognite-style Data Model based on sensor-derived activity recognition data to simulate SLB's internal use cases, and developed schema-aware prompt generation functions for downstream, context-specific document retrieval

Image Reconstruction with Structured Masking and Adaptive Noise

- Trained a DDPM with U-Net backbone to reconstruct occluded facial images, using the FFHQ dataset with landmark-based region detection (Mediapipe, dlib), structured masking and adaptive noise to simulate realistic occlusions and enhance reconstruction and inpainting quality

Context-Aware Sentiment Analysis of Yelp Reviews using Fine-Tuned DistilBERT

- Fine-tuned an LLM (DistilBERT) to predict positive reviews (4+ stars), incorporating contextual tokens from user and business data. Used stratified sampling, class-weighted loss, and F1-optimized thresholds to handle class imbalance
- Improved accuracy from 71% to 93%, and F1 score from 74% to 95%; used TF-IDF to identify key sentiment drivers across time, location, and business traits

Cox Communications – Outage Detection using Customer Interaction Data (Placed 3rd for MSA Project Week)

- Processed high-volume multichannel customer interaction logs and used anomaly detection models (MSTL, Isolation Forest) to detect latent outages not explicitly labeled in the data
- Developed a rolling-window Random Forest model for near real-time outage prediction, enabling faster remediation

SKILLS

Programming & Software: Python (NumPy, Pandas, Scikit-learn, PyTorch, Matplotlib, Hugging Face, Mediapipe, dlib, pdf2image, pypdf), SQL, STATA, R, Tableau, Git; exposure to JS, D3, AWS, GCP, PySpark, Spark, Databricks, Azure ML

Analytical Skills: [Causal Inference](#) (DiD, Matching [CEM, PSM], RD, Synthetic Controls, A/B Testing, Survival Analysis); [Machine Learning / Deep Learning](#) (Supervised/Unsupervised Learning, Neural Networks, Regression, Classification, Clustering, Random Forest, Anomaly Detection, Time Series, Image Reconstruction [DDPM], Prompt Engineering, Network Analysis); [NLP/LLM](#) (Sentiment/Topic Analysis, Transformers [BERT, DistilBERT], Token Augmentation, Schema-Aware Prompting, SHAP)