JESSICA JIA HUI TING

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EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY — **Atlanta, GA, United States**
Master of Science, Analytics (GPA: 4.0/4.0) — *2024-Present*

- Relevant coursework: Data and Visual Analytics, Linear Programming and Optimization, Machine Learning, Graduate Algorithms, High-dimensional Data Analytics

NATIONAL UNIVERSITY OF SINGAPORE — **Singapore**
Bachelor of Social Sciences, Economics (Honors), Highest Distinction (GPA: 4.88/5.00) — *2015-2019*

- Specialization: Quantitative Economics; Minor/Other Programs: 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 projects involving data cleaning and statistical analysis in STATA and R, collaborating with cross-agency teams to deliver actionable insights to senior management. Key projects:
  - Assessed effect of university cohort expansions on wage premiums to provide recommendations for education policy
  - Analyzed the R&D and innovation landscape, and relationship between public and business R&D spending using administrative and survey data to inform policy priorities
  - Quantified the contributions of intangible assets and other drivers to productivity trends
  - Developed a Tableau dashboard tracking labor market indicators during the COVID-19 pandemic for policy calibration
- Developed economic parameters and scenarios for national long-term infrastructure planning
- Mentored interns in coding, econometric methodologies and policy contexts to deliver projects for policy prioritization, and supported critical organizational processes such as the Budget and Committee of Supply debates

PROJECTS

Outage Detection using Customer Interaction Data from Cox Communications *(Project Week 3rd Place)*

- Processed and analyzed large historical datasets of customer interaction data across multiple channels
- Used anomaly detection models (MSTL, Isolation Forest) to identify outages, which were not directly available in the data
- Developed a real-time rolling window prediction model (Random Forest) to predict outages at higher frequencies, which would enable faster response times and reduced customer impact when outages occur

Soundscape Cartography: Data-Driven Approach to Music Clustering *(group project for Data and Visual Analytics class)*

- Collected data on 220k tracks using Spotify's API, and applied stratified sampling and feature engineering (winsorization, PCA) for balanced genre representation
- Implemented HDBSCAN and MBD-BIRCH clustering algorithms on the 128k track sample with parameter tuning
- Built an interactive dashboard to visualize hierarchical clusters and features, improving user insights on music landscape

US Patent Citation Network Analysis

- Analyzed SNAP US patent citation network (3.7M nodes, 16.5M edges) to uncover key patents and technological domains
- Applied degree-based sampling to optimize computational efficiency, and used Louvain algorithm for community detection, PageRank to identify influential patents, and Matplotlib and NetworkX for visualization

PROFESSIONAL DEVELOPMENT

- ***Python Programming and Unstructured Text Analytics*** (Civil Service College Singapore) — *Feb 2023*
- ***Machine Learning and Big Data CEP, ASSA Annual Meeting*** (American Economic Association) — *Jan 2023*
- ***Using Text as Data: Methods and Applications*** (Barcelona School of Economics) — *Jul 2022*

SKILLS

Programming Languages & Software: Python, SQL, STATA, R, Tableau; exposure to JavaScript, D3, AWS, GCP, PySpark, Apache Spark, Databricks, Azure ML

Analytical Skills*: Causal Inference* (Survival Analysis, Difference-in-Differences, Matching Methods [CEM, PSM], Regression Discontinuity, Synthetic Controls, Experimental Design); *Machine Learning & Analytics* (Regression, Clustering, Classification, Random Forest, Network Analysis, Time Series Forecasting & Volatility Modelling, Optimization, Text Analytics)