

# JERRY CHUA

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## EDUCATION

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### **National University of Singapore (Jan 2023 - Present)**

*Doctor of Philosophy in Operations Research and Analytics*

- Institute of Operations Research and Analytics

### **London School of Economics and Political Science (Sept 2021 – Sept 2022)**

*Master of Science in Operations Research and Analytics*

*Distinction (GPA 4.0/4.0)*

- Summer research: Optimal learning in assortment planning problems
  - o Investigated the potential use of knowledge-gradient in assortment planning problems

### **National University of Singapore (Aug 2017 - Jun 2021)**

*Bachelor of Engineering (Industrial and Systems Engineering), with a Minor in Statistics*

- Dean's List (AY2020/2021 Semester 1)
- Independent Study Module: Assortment Planning in Recommender Systems
  - o Merged Predictive Analytics in Recommender Systems with Prescriptive Analytics in Assortment Planning

## EXPERIENCE

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### **National University of Singapore (Sept 2022 – Jan 2023)**

*Research Assistant*

- Research on potential policies adoptable to induce sustainable maritime operations

### **National University of Singapore (June 2021 – Sept 2021)**

*Research Assistant*

- Research on Market Based Measures on Shipping Industry
- Stochastic modelling of MBM on liner shipping services with transshipment using Stochastic Decomposition and Sample Average Approximation
- Worked on NextGEN, an initiative by the International Maritime Organisation and Maritime Port Authority of Singapore to facilitate information sharing and identify opportunities and gaps in decarbonisation of the maritime sector

### **Television Content Analytics (Dec 2020 – May 2021)**

*Data Science Intern*

- SGInnovate Infinity Series
- Player Detection and Tracking for Table Tennis Match
- Web API for querying of Data from tracking algorithm
- Build Fault Detection Algorithms for Cricket matches

## **DHL Express (Aug 2020 – May 2021)**

### *Student Consultant*

- NUS-ISE Systems Design Project
  - o Optimizing Manpower Planning and Allocation
- Built Demand Forecasting model using Ensemble of Holt-Winters and Gradient Boosted Trees
- Built Mixed Integer Programming model to optimise manpower planning by using forecasted values of demand
- Built Flask WebApp with Dashboarding Capabilities

## **DHL Express (June 2020 – Aug 2020)**

### *Industrial Engineering Intern*

- Optimised and Streamlined Workflow processes by building an executable application with GUI to aid in complex filtering and data subsetting processes of Excel Spreadsheets
- Optimised route planning through outlier detection and spatial analysis of location stops within each route. Developed simple Web Application for ease of use.
- Built time series forecasting models for adhoc courier allocation with fbprophet and SARIMAX. Developed into a web application that allowed refitting of model.

## **PUBLICATIONS**

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- **J. Chua**, Soudagar I., Ng S.H., Meng Q. *Impact analysis of environmental policies on shipping fleet planning under demand uncertainty*. Transportation Research Part D: Transport and Environment (*submitted*)

## **AWARDS**

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- A\*STAR Computing and Information Science Scholarship

## **MISCELLANEOUS**

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### **Volunteer, Kampung Kakis (June 2020 – Aug 2021)**

#### *Tech Volunteer*

- Optimized matching of Kaki Volunteers with Kaki-In Need using NLP and mathematical modelling techniques (Linear Integer Programming) with CVXPY (open source).

## **PROFICIENCIES**

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Proficient with R, Python, SQL and Tableau

- Proficient in numpy, pandas, matplotlib, sklearn, networkx, scikit-surprise, OpenCV, Detectron2, tensorflow2 (Keras), Gurobi, CPLEX