YING-FANG LIANG

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Professional Experience

The Westin Reserva Conchal — Costa Rica & Montreal, Canada
Academic Data Engineer and Data Scientist Consultant, Co-op — *June 2023 – Aug. 2023*

- Developed a solution using a fine-tuned CNN model to recognize animals in the resort's wildlife refuge to increase tourist engagement and introduce crowdsourced data.
- Designed and completed a full stack solution including a user interface in React.js and a serverless cloud backend using Firebase and Google Cloud Functions.
- Created a PowerBI dashboard for real-time monitoring and government report generation.

Pratt & Whitney Canada — Montreal, Canada
Academic Data Scientist Consultant, Co-op — *Sept. 2022 – May 2023*

- Constructed ETL pipelines and a combination of models in Python to predict the completion time of quality control tasks with a balanced accuracy of 79% and built alerts to detect abnormal tasks.
- Identified the root causes of delayed tasks by using causal inference and text analytics to shorten the investigation time. This is estimated to reduce 20% of the workforce required for this process in the following two years.
- Built PowerBI dashboards for real-time KPI monitoring and to help systemize supplier management.

Qualcomm Technologies, Inc. — Hsinchu, Taiwan
Backend New Product Introduction Engineer, Full-time — *Sept. 2019 – Apr. 2022*

- Conducted descriptive analysis on hardware equipment performance and secured smooth launch of new products.
- Reduced 20% of the examination process time and improved the production efficiency by troubleshooting through data analysis with the cooperation of engineers, vendors, and subcontractors.
- Optimized hardware maintenance schedule and increased 10% equipment availability by analyzing production data to locate root causes of malfunction.
- Lead the transfer of tasks to Samsung within 3 weeks to align business needs with engineering and operations requirements.
- Forecasted impact of delayed hardware shipments to initiate alternative solutions and ensure commitment to customers.

Project Experience

A Multiple Resource Type Scheduling Problem for Hosiery Production Operations — Hsinchu, Taiwan
Master Thesis at National Tsing Hua University — *July 2018 – July 2019*

- Transformed a real-world scheduling problem into a mixed integer programming model and improved time saving by up to 50%. Used Gurobi and parallel searching algorithms implemented in C including simulated annealing and Tabu search.

Education

McGill University — Montreal, Canada
Master of Management in Analytics, CGPA 3.7/4.0 — *July 2022 – Aug. 2023*

- Courses: DBMS, Machine Learning, Optimization, Multivariate Statistical Analysis, Deep Learning, Revenue Management
- Python Projects: Airline Satisfaction Analysis, Airbnb ML Study, Vehicle Review Analysis, News Topic Modelling etc.
- Gurobi Projects: Communauto Allocation Research, Concert Routing Optimization
- R Projects: IMDb Score Prediction, Shark Tank Viewership Analysis

National Tsing Hua University — Hsinchu, Taiwan
M. Eng. in Industrial Engineering and Engineering Management, CGPA 4.1/4.3 — *Sept. 2017 – July 2019*

Chalmers University of Technology — Gothenburg, Sweden
Exchange student, Production Engineering Program — *Jan. 2017 – June 2017*

National Chiao Tung University — Hsinchu, Taiwan
B. Eng. in Industrial Engineering and Management, CGPA 4.0/4.3 ranked #1 in Department — *Sept. 2013 – June 2017*

Technical Skills

- **Software** – Python / SQL / dbt / C / R / Excel / PowerBI / GCP / Firebase / Azure / Gurobi Optimization / Git / Jira / Agile
- **Data Analytics Tools** – Scikit-Learn / PyTorch / Fast.ai / Matplotlib / CausalML / AutoML / OptimalPlus / Exensio
- **Certificate** – IBM Data Science Professional Certificate (credential: Link)
- **Models Used** – Random Forest, Boosting, Tree-based, Linear/Logistic Regression, CNN, RNN, K-Mean, KNN, SVM, PCA

Languages

English (fluent), Mandarin (fluent), Taiwanese (fluent), French (elementary)