

KUAN-TING CHEN

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Work Experience

Mohamed Bin Zayed University of Artificial Intelligence

June 2024 – Now

Research Assistant, Supervisor: Prof. Chih-Jen Lin

Abu Dhabi, United Arab Emirates

- **Thresholding Strategies for Neural Networks**

- Analyzed thresholding strategies for multi-label classification, examining decision values and optimal thresholds to uncover how neural networks and linear models handle varying label frequencies in imbalanced datasets.

- **Revisit One-versus-One and One-versus-Rest Decomposition Strategies**

- Demonstrated One-versus-One's superior performance in handling imbalanced multi-class datasets compared to One-versus-Rest, through experiments involving linear, non-linear, and cost-sensitive classification methods.

- Maintained key machine learning libraries: LIBSVM, LIBLINEAR, and LibMultiLabel

Yahoo Inc.

May 2022 – Mar. 2024

Data Scientist

Taipei, Taiwan

- **Optimal Campaign Discount Strategy for E-Commerce**

- Developed a discount strategy balancing sales growth and profit margins by analyzing contribution margins and variable costs, validated through A/B testing, resulting in a 3% revenue increase and 15% improvement in contribution margin.

- **Flash Sale Product Selection**

- Developed an automated product selection system for flash sales using high-profit margins, keyword volume, and competitive pricing indicators to achieve comparable revenue but higher margins than manual selection.

Taiwan Semiconductor Manufacturing Company

Sept. 2020 – Apr. 2022

Machine Learning Engineer

Hsinchu, Taiwan

- **StarGAN-Based Wafer Bias Simulation for Yield Improvement**

- Reframed wafer bias simulation as a multi-domain image-to-image translation task using StarGAN, categorizing tool combinations as distinct domains, achieving a 3% yield improvement for over 80% of wafers across 4 factories.

- **Real-Time Defect Classification for Production Efficiency**

- Developed a real-time defect classification model by extracting domain-specific features with image processing techniques and using Adaboost, achieving over 90% accuracy and saving 3.5 hours of manpower daily.

Professional & Internship Experience

WorldQuant

Nov. 2022 – Now

Research Consultant, Part-time

Taipei, Taiwan

- **Genetic Algorithm Framework for Trading Strategies**

- Developed a Genetic Algorithm-based framework for generating trading strategies, ensuring interpretability and efficiency, and achieved 5th place globally in WorldQuant's internal competition with over 1,000 consultants.

Cupoy

Apr. 2023 – May 2023

Natural Language Processing Lecturer, Part-time

Taipei, Taiwan

- Delivered monthly lectures for participants with no prior knowledge, covering basic and advanced topics for 50 attendees.

Shopee Taiwan

July 2019 – July 2020

Data Scientist, Internship

Taipei, Taiwan

- **Customer Merchandise Recommender System**

- Increased conversion rates by 1.5% using Poisson Matrix Factorization, guided by customer pattern analysis.

- **Customer Behavior Trend Prediction**

- Developed a Seq2Seq model to forecast monthly consumption trends for 8 million customers, achieving 65% accuracy.

Education

National Chengchi University

Sept. 2018 – June 2020

Master of Statistics, Supervisor: Prof. Chiu-Hsing Weng

Taipei, Taiwan

- Awarded Phi Tau Phi Scholastic Honor Society of the Republic of China (Top 1%)

- Master Thesis: *Convergence of Stochastic Gradient Descent for Ordinal Regression Model and Applications for Recommender Systems*

- Python Study Group Leader: Mentored 20 peers in Python for data science, delivering focused guidance and practical insights to boost their expertise.

- Related Course: Mathematical Statistics, Natural Language Processing, Computer Vision

National Central University

Sept. 2014 – June 2018

Bachelor of Mathematics

Taoyuan, Taiwan

- Related Course: Calculus, Linear Algebra, Probabilities and Statistics