Michael. C. J. Kao
Curriculum Vitae

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Personal Summary

Highly skilled data scientist with hands-on knowledge of the latest statistic and machine learning techniques with a passion for problem-solving and value creation.

Experience in productionising machine learning model on AWS and a solid understanding of engineering practice.

I love diving, in water and data!

Work experience

July 2018 – Dec 2020

Envato, Melbourne, Australia

Data Scientist

Pioneer of data science, promoting the adoption of advanced analytics and application of ML.

July 2017 – July 2018

FAO of the United Nations, Remote

Consultant

Research on the application of Deep Learning models for detecting commodity market anomalies and future food crisis.

November 2016 – July 2017

Deepblu Inc, Taipei, Taiwan

Senior Data Scientist

The technical lead of newly created data team reporting to senior management on everything about data.

October 2011 – October 2016

FAO of the United Nations, Rome, Italy

Lead Statistician

R ambassador and project technical lead for the global Food Balance Sheet.

June 2010 – November 2011

Ogilvy & Mather, Auckland, New Zealand

Data Analyst

Technical Skills

Languages	R, Python, Scala
Database	SQL, PostGIS, Mongo, Redshift, BigQuery
Other	Linux, Docker
AWS	Lambda, S3, ECS, Sagemaker

Work Approach

"Simplicity Is The Ultimate Sophistication"

$$\min_{\beta \in \mathbb{R}^d} \{\|y - \mathbb{X}\beta\|_2 + \lambda\|\beta\|_1\}$$

Selected Projects

2018 Diamond Analysis
Scrapped diamond data from James Allen to build a pricing model to estimate how much I am about to get ripped off for an engagement ring.

2020 Tag embedding
Train embedding model on tag data for recommendation and automatd collection.

2020 Churn analysis
Analyse usage data to identify the path and point of churn.

2019 Customer Segmentation
Segment customers into multiple industries, providing a basis for personalised strategy.

2018 Customer Lifetime Value
Predict customer lifetime value using survival analysis to ensure PPC campaigns provide an acceptable level of ROI

2017 Hardware anormaly detection
Applied isolation forest to detect anomalies in dive logs resulting from hardware faulty in dive computer to improve the reliability of our product and the safety of diving.

2017 Social Network Analysis
Analysed the structure and connectivity of the market and devised an acquisition strategy for exponential growth.

2016 The Reading Machine (Github)
Sentiment extraction and topic modelling of news article coupled with Recurrent Neural Network to forecast the commodity price. The purpose of the project is to identify potential food crisis.

2014 Food Balance Sheet (Github)
An update to the latest methodology for the Food Balance Sheet (FBS). The work estimates the global supply and demand of food and as input to the estimation of the number of undernourishment around the globe.

2013 R package: FAOSTAT (CRAN)
An R package providing seamless integration to the FAO Statistics database.

2011 Marketing Optimisation Analysis
The project estimated the effects of various advertising channel in order to assess the respective efficiency and effectiveness. The estimations were then employed to optimise the allocation of the marketing budget for a large retail banking client. The result was a 79% improvement in customer acquisition over the existing budget.

2011 Finding High Achievers
The project identified segments of individuals who are high achievers from students of economically deprived background. The uses of the PRIM algorithm pinpoint a segment with a 70% completion rate as opposed to the pool average of 41%. This resulted in improved utilisation of public funding.

Interests

Hobbies Scuba diving, basketball, boxing, yoga, cooking and travelling

Places I have visited

Education

2010 – 2012 M.Sc. in Statistic
University of Auckland

2009 – 2010 B.A. (1st Class Hons.) in Statistics
University of Auckland

2005 – 2009 B.A. & B.Sc
University of Auckland