Michael. C. J. Kao

Curriculum Vitae

github.com/mkao006
mkao006@gmail.com

Analytical consultant delivering solutions to business problems.

Personal Summary

Highly skilled data scientist with hands-on knowledge of the latest statistic and machine learning techniques with a problem-solving mindset at the core.

Real experience in productionising machine learning model on AWS and solid understanding of engineering practice.

I love diving, in water and in data!

Work experience

July 2018 –

Envato, Melbourne, Australia

Data Scientist

Spearheaded the formation of the data science function and promote the application of machine learning across the company with high value use cases.

July2017 – July 2018

FAO of the United Nations, Remote

Consultant

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

November 2016 – July 2017

Deepblu Inc, Taipei, Taiwan

Senior Data Scientist

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

Software Skills

Languages	R, Python
Packages	mlr, shiny, pandas, numpy, scipy, sciki-learn, scrapy, tensorflow, airflow and django
Database	SQL, PostGIS, Mongo
Other	Linux, Docker, AWS and Git

Work Philosphy

"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 analyse and built pricing model to understand how much I have been ripped off on the engagement ring.

2020 **Churn reduction**
Analyse data to identify point of churn and built prediction model to reduce churn (On-going).

2019 **Customer Segmentation**
Segment customers into multiple industry, providing a basis for ***company communication and personalised strategy.***

2019 **Customer Lifetime Value**
Predict customer lifetime value using survival analysis and ***ensure PPC campaigns provide an acceptable level of ROI***

2017 **Identify Anomalies**
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 **Path to Exponential Growth**
Anlaysed the structure and connectivity of the market and devised ***acquisition strategy for highest potential growth*** *and* ***highlighted the areas of churn.***

2016 **The Reading Machine (Github)**
Sentiment extraction and topic modeling 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 provides a basis for ***monitoring the suppy of demand of food*** *and ultimately 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 which 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, 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