

Aranan Wijayasooria

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EDUCATION

University of Bath

MSc Data Science and Statistics

Sep. 2020 – Sep. 2021

Overall Grade (predicted): First class

University of Southampton

BSc Economics and Management

Sep. 2016 – Jun. 2019

Overall Grade : Upper second class

EXPERIENCE

Met Office

May. 2021 – Sep. 2021

Joint Research dissertation: Predicting solar flares with Machine Learning ([github link](#))

London UK

- Parsed and cleaned twenty years of raw data on Solar flares from three different sources using the SunPy and drms package. Merged the raw datasets into concise data for Machine Learning modelling. Also engineering the inclusion of McIntosh Evolutions into the data, a novel feature in the classification of solar flares.
- Trained Support Vector Machine models (SVMs) to forecast the strength of a future solar flare given data 24 hours prior. Hyperparameters were tuned using cross-validation and multiple runs with different combinations for each parameter.
- Implemented feature selection models to reduce the dimensionality of the datasets such as F-scoring, Logistic regressions, and Linear SVM with l_1 regularizer.
- Created novel modifications to the SVM model by merging it with the KNN algorithm, bagging techniques, and the SMOTE algorithm
- Matched the Met Offices industry standard forecasting method in terms of prediction capability (measured by the ROC AUC. **The final ROC AUC during testing was 0.89**).

Xelix

Sep. 2019 – Mar. 2020

Start up intern

London UK

- Managed the account payables databases of a multitude of large clients using the in house software, **investigating on average 100 daily issues with duplicate payments and invoice fraud.**
- Research into Artificial Intelligence with regards to invoice fraud, forming brief overviews of the new scientific literature for the back-end dev team.
- Cold called and prospected new clients to pitch our SAAS software to detect errors in their accounting software.

MODELLING

Machine Learning(Python) : Supervised Machine Learning with scikit-learn; models include KNN classifiers, SVMs, Logistic Regression, Ridge Regression, Naïve Bayes Classifier, Gaussian Process regression, Random Forests, Boosted Regression Trees, and simple Neural Networks.

Statistical modelling (R) :Linear regression, Multiple regression, Logistic regression, Panel regression, Instrumental variables, Generalised Linear Models (GLM), Linear models with random effects, and GLM mixed models.

PRE-GRADUATE EMPLOYMENT/ SEASONAL EMPLOYMENT

Plate waiter: Wimbledon tennis,Lego Land, Thorpe Park, and Richmond Boat club

Bar Staff: Class 1 personnel, across music festivals and London events

Street fundraiser: One Sixty Fundraising, worked during University holidays

Camp Counsellor: Oxford International (Horsham, UK), Camp Carson (Indiana, USA)