RYAN SINGH

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I have recently completed a master's degree in Mathematics (First Class MMath, University of Oxford). I have both practical and academic experience in Machine Learning, Artificial Intelligence, and Statistics more generally. I am currently looking to join the exciting and rapidly expanding technology industry (in London/Cambridge/Oxford).

SKILLS

PROGRAMMING:

PYTHON

TENSORFLOW

NUMPY

PANDAS

SCIKIT-LEARN

MATPLOTLIB

SEABORN.

EXPERIENCE WITH MATLAB AND R STUDIO.

LATEX

MATHEMATICS/ STATISTICS:

DEEP LEARNING

GRAPHICAL MODELS

BAYESIAN STATISTICS

NETWORKS

MARKOV CHAINS.

LANGUAGES:

ENGLISH (NATIVE)

SPANISH (LIMITED WORKING PROFICIENCY, CEFR LEVEL B1/B2)

HINDI (BASIC)

PUNJABI (BASIC)

Education

University of Oxford	*2015 - 2019*

Master's Degree: MMath, Mathematics (1st class)
Bachelor's Degree: BA, Mathematics (2:1, 67%)

Wyggeston and Queen Elizabeth I Sixth Form College, Leicester	*2013 - 2015*

A level: Mathematics A*, Further Mathematics A*, Physics A

Machine Learning Experience

Deep Learning mini-project (Masters level), University of Oxford	*Jun 2019*

Studied deep net architecture, including: non-linear activation functions, back-propagation, convolutional layers and pooling. Produced a short (NIPS style) paper on Graph Convolutional Networks (GCNs) and how we can use spectral values of the graph to infer the optimal depth of the GCN.

Proteomics Research Project, University of Oxford	*Jul - Sept 2018*

Used unsupervised machine learning techniques to investigate clustering within a large clinical dataset. Tools included:

- Preprocessing (data whitening, locating missing values)
- Dimensionality reduction (PCA, Isomap, LLE, t-SNE)
- Clustering (k-means, DBScan, gaussian mixtures)
- Analysis using metrics, chi-squared test and decision trees
- Topological Data Analysis (Mapper algorithm)
- Pandas, Sklearn, NumPy, Seaborn python modules

Statistical Machine Learning Course, University of Oxford	*Sept - Dec 2018*

Learnt about the statistical foundations of fundamental ML concepts, these included:

- Specific models such as PCA, MDS, K-means, LDA, QDA, Logistic Regression and Naive Bayes.
- Cross-validation, generalisation and overfitting
- Regularisation
- Brief introduction to neural networks, deep learning, bagging and boosting

Work Experience

Team Leader, National Citizen Service	*Summer 2016/2017*

Lead teams of (around ten) 15-17 year olds through the government funded social development programme NCS. My role was to oversee the success of a social action project designed by the young people, whilst ensuring their health, safety and wellbeing. This job required leadership, responsibility, attention to detail, the ability to work under pressure as well as clear communication.

Interview Host, Wadham College	*December 2017*

Aided the university in administering interviews. This job required strong organisation and communication skills in addition to a proactive attitude.

Interests

I love sports, I was captain of Wadham College Futsal team besides playing regularly in Wadham's football and basketball teams. I am a keen autodidact, I have taught myself Hindi, Spanish, Python and how to breakdance. My passion for learning also extends to teaching others. I have participated in numerous voluntary math tutoring schemes throughout my higher and further education, which has augmented my ability to explain complex concepts in a simple manner.