SHARAN MAIYA

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EDUCATION

Imperial College London *Oct 2020 - Sep 2021*
MSc Statistics (Data Science) Merit
Thesis: A Novel Method of Tuning and Comparing Causal Discovery Algorithms on Real Data ***(Distinction)****.*

The University of Edinburgh *Sep 2016 - Jun 2020*
BSc Computer Science and Mathematics First Class
Thesis: Investigating the Respiratory Rate Response to $PM_{2.5}$ Exposure in Asthmatic Adolescents - nominated by the University of Edinburgh for both the ScotlandIS Young Software Engineer of the Year Award and the WCIT Charity University IT Awards ***(Distinction)****.*

WORK EXPERIENCE

The University of Edinburgh Sep 2021 - Present
Research Assistant

- Statistical methods and machine learning for a range of problems in air pollution epidemiology.
- Working on causal discovery algorithms and causal effect estimation.
- Debiased (targeted) machine learning for semi/non-parametric models.
- Advising undergraduates and masters students on a weekly basis.

TradingHub Jun 2020 - Aug 2020
Software Engineer Intern

- Mixture of front-end work on data visualisation (e.g., 3D interactive graphs for pricing data) as well as projects with the quant team on the development of a tool for analysing best execution.

DataGrasp Jan 2020 - Apr 2020
Freelance Data Scientist

- Developed regression models to forecast key economic indicators for UK public finances. These models produced more accurate forecasts than the consensus figures previously used.

Royal Bank of Scotland Jun 2019 - Aug 2019
Summer Intern

- Handling large cost datasets and scripting reporting of key stats for the 2020 budget cycle.

The University of Edinburgh Sep 2018 - Dec 2018
Undergraduate Researcher

- Developed an Android app for golfers to analyse their swing in real-time from a wireless sensor worn on the wrist.

PREPRINTS AND PUBLICATIONS

D K Arvind and **S Maiya**. "Sensor data-driven analysis for identification of causal relationships between exposure to air pollution and respiratory rate in asthmatics". *arχiv* 2022.

D K Arvind, **S Maiya** and P Sedeno. "Identifying causal relationships in time series data from a pair of wearable sensors". *IEEE 17th International Conference on Wearable and Implantable Body Sensor Networks* 2021.

A Miller, D Miron and **S Maiya**. "GraphDraw - A Tool for the Representation of Graphs Using Inherent Symmetry". In *Proceedings of The First International Conference on Symmetry*, 2018.

D K Arvind and **S Maiya**. "Investigating short-term health effects of air pollution exposure for asthmatic adolescents in Delhi". In preparation for submission to *PNAS*.

POSTER PRESENTATIONS

APHH Science Meeting 2022
I presented a large body of my work involving the use of causal discovery methods to investigate the health-effects of air pollution exposure in Delhi to a multidisciplinary audience of academics.

Statistics Research Project 2021
I presented and defended my MSc thesis "A Novel Method of Tuning and Comparing Causal Discovery Algorithms on Real Data", to academics in the Dept. of Mathematics at Imperial College London.

UK Young Scientists Conference 2015
Presentation of my Nuffield Research Project "Visually Pleasing Graph Representation Using GraphDraw". Awarded second prize for my work and poster presentation.

RELEVANT PRACTICAL SKILLS

Computational Statistics	(Python, R)
Data Analysis	(pandas, matplotlib, seaborn, ggplot2)
Big Data	(Hadoop, Spark)
Machine Learning	(scikit-learn, tensorflow, pytorch)

EXTRA-CURRICULARS

Hackathons

- Oxford - 2017 *(Prize Winners)*, 2018 *(Prize Winners)*, 2019.
- Cambridge - 2019.
- Edinburgh - 2018.
- Harvard - 2018 *(Prize Winners)*.

Martial Arts: Trained, taught and competed in martial arts for 8 years. I hold a 2nd degree black belt in Taekwondo.

Musical Performance: I have played the saxophone for 14 years. I have been working towards a Diploma in Musical Performance after passing my Grade 8 ABRSM exam with distinction.