

# Muhammad Faaiz Taufiq

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## EDUCATION

### University of Oxford

Oct. 2020 – Present

*PhD in Statistical Machine Learning*

Oxford, UK

- **Supervisors:** Prof Arnaud Doucet and Prof Yee Whye Teh
- **Research topics:** Causal inference, distribution free uncertainty quantification, reinforcement learning, variational inference.

### University of Cambridge

Oct. 2017 – Jul. 2018

*Master of Mathematics (MMath)*

Cambridge, UK

- **Result:** Honours pass with Distinction – Ranked among top 5% of the cohort.
- **Modules:** Machine Learning in Practice, Modern Statistical Methods, Topics in Convex Optimisation, Advanced Probability and Advanced Financial Models.
- **Research Essay:** Generative Adversarial Networks (Score: 93/100).

### University of Cambridge

Oct. 2014 – July 2017

*BA Mathematics*

Cambridge, UK

- **Result:** Class I (each of the three years)
- **Modules:** Applied Probability, Statistics, Markov Chains, Principles of Statistics, Statistical Modelling, Stochastic Financial Models and Optimisation.

## EXPERIENCE

### ASB Research

Jun. 2021 – Present

*Partner and Quantitative Researcher (Part-time)*

London, UK

- The start-up specialises in Sports trading
- Leading the initiative to research and implement trading strategies using continuous stream of market data

### Morgan Stanley

Sep. 2018 – Sep. 2020

*Associate, Application Developer*

London, UK

- Designed and developed software for proprietary risk calculation platform to increase computational efficiency
- Partnered with sales teams to develop an award winning data intelligence engine to streamline analysis and visualisation
- Completed a comprehensive training program spanning a range of programming languages and technologies including Java, C++, Python, Scala, C#, SQL and Linux

### Citigroup

Jun. 2018 – Aug. 2018

*Quantitative Placement Analyst, Exotics Trading Desk*

London, UK

- Created a Risk Analytics Tool to carry out daily risk metric calculations
- Automated the calculation, visualisation and distribution of monthly trading metrics to enable easy data analysis and evaluation
- Collaborated with traders on a project to mark volatilities for long dated exotic products on single stocks

## J.P. Morgan

### Cyber Security Summer Intern

Jun. 2017 – Aug. 2017

London, UK

- Led and managed the delivery of a complex analytical tool to understand the Cyber Controls environment
- Designed, developed and delivered software for the visualisation of Cyber Threats and Controls Data
- Collaborated with Interns from North America and Asia to lead a Cyber Security Awareness campaign

## Dyson Ltd

### Research Intern

Jun. 2016 – Sep. 2016

Wiltshire, UK

- **Research Project:** Investigating the change in resonant frequencies of metallic structures with the addition and subtraction of discrete masses
- **Supervisor:** Dr Ruth Voisey
- Implemented a numerical model to simulate structure vibration modes and used it to identify optimal mass positioning
- Validated the numerical and analytical results using experiments and presented the findings to the founder of the company, Sir James Dyson

## PROJECTS

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### Admissions Counselling at Counselling Pakistan

Aug. 2015 – May. 2017

- Volunteered to provide free admissions guidance to Pakistani students applying to the UK (particularly Oxbridge)
- Participated in building a network of 122 Volunteer Admissions Counsellors covering 11 different regions
- Teamed up with university students across different regions to help more than 4000 high school students with their college/university applications

## PUBLICATIONS

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- [1] **M.F. Taufiq**, R. Cornish, Y.W. Teh, A. Doucet, C. Holmes, Causal Framework for Assessing Digital Twins, *Unpublished manuscript*
- [2] **M.F. Taufiq\***, J.F. Ton\*, R. Cornish, Y.W. Teh, A. Doucet, Distribution-free uncertainty quantification in off-policy evaluation, *Unpublished manuscript*

## SKILLS

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**Programming Languages** : Python, Java, Scala, C++, C#, SQL, R, MATLAB

**Frameworks** : Pytorch, Scikit-learn, Numpy, Pandas, Pyro, Keras

## AWARDS

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Google DeepMind Scholarship to study PhD at Wolfson College, Oxford	2020
Hugo de Balsham Prize for Exceptional Academic Distinction. <i>Peterhouse, Cambridge</i>	2018
Charles Clemmow/Harry Benton Talbot Prize for Mathematics. <i>Peterhouse, Cambridge</i>	2017
Senior Scholarship in Mathematics and Mathematics College Prize. <i>Peterhouse, Cambridge</i>	2014 – 2017
800th Anniversary Scholarship to study Mathematics at Peterhouse, Cambridge. <i>Cambridge Trust</i>	2014 – 2018
Feroze Khan Noon Scholarship awarded for academic excellence. <i>Noon Foundation</i>	2014 – 2015
Honourable Mention Award in International Mathematical Olympiad (IMO)	2013
Honourable Mention Award in Asian Pacific Mathematics Olympiad (APMO)	2013

## ACADEMIC SERVICES

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**Reviewer** : NeurIPS 2020

**Teaching Assistant** : Statistical Inference (Oct 2021 - Present)