

ROSEANNA FERGUSON

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PERSONAL STATEMENT

Graduated from the University of Warwick with a first class Master of Mathematics and an award for outstanding academic achievement. Currently, I work on the lightends trading desk at Castleton Commodities International where I am utilising my mathematical and programming experience in quantitative analysis and trading strategies. Previously, I supported the origination team at Centrica in advising clients, offering new ideas, valuing deals and discovering opportunities.

Studying mathematics has refined my analytical skills and my clear aptitude for understanding and solving complex problems can be shown both by my final year project on Ergodic Theory and research using stochastic analysis applied to mathematical finance, which I carried out in my spare time. Furthermore, I continually strive to widen my experience in other technical areas such as programming. I have completed various projects including building my own website, developing a back-testing framework in MATLAB using object oriented programming and completing two online courses in machine learning.

My ability to use enthusiasm and creativity to succeed in a variety of organisations, despite being in pressurised situations, demonstrates versatility. Finally, I am passionate about contributing to the communities I belong to, displayed by my activities in Athena Swan and teaching in South Africa.

EDUCATION

Warwick University - *First Class Master of Mathematics*

Oct 2012 - Jun 2016

- **Master of Mathematics Prize** for outstanding academic achievement
- First Year: **76%**, Second Year: **68%**, Third Year: **87%**, Fourth Year: **89%**
- Relevant modules: Brownian Motion, Advanced PDEs, Bayesian Forecasting and Intervention, Probability Theory, Stochastic Processes, Dynamic Stochastic Control, Combinatorial Optimisation
- Research Project: Ergodic Theorems For Free Groups

Harrogate Grammar School - *Secondary School*

Sep 2004 - Jun 2012

- A-Levels: Mathematics(**A***), Further Mathematics(**A***), Physics(**A***), Chemistry(**A***), Economics(**A**)
- AS-Levels: Additional Further Mathematics
- Awards included Sixth Form Physics Cup (2012), Sixth Form Mathematics Prize (2011)

WORK EXPERIENCE

Castleton Commodities International - *Quantitative Analyst*

May 2017 - Present

- Built a live refinery margin model using VBA and MATLAB with a user interface that allows easy identification of mis-pricing based on historical values. It has automatic email updates. Created a live forward blending arb model using linear programming.
- Provide ad-hoc analysis for the lightends trading desk on fundamentals, prices and risk. Back-test trading strategies and create price data infrastructure. Develop supply and demand models and semi automated ship tracking.
- Built automatic processes triggered by email and a GUI in Python for automatic downloads.
- Identify key news in the market at pivotal points which traders can use directly to reduce risk and add value. Provide analysis and reports which are shared with traders and the management team at CCI.
- Experience in building business relationships in China. Manage a variety of relationships with key internal and external stakeholders. Negotiated better terms with information providers and reduced IT bottlenecks in the team. Network with the wider firm to create better information flow.

Centrica - Energy Marketing and Trading Analyst**Oct 2016 - May 2017**

- Support sales by providing valuations, hedging strategies and fundamental market analysis.
- Build models in VBA which use linear optimisation and backtesting to evaluate the intrinsic value of different gas swing contracts. Analyse patterns in gas prices to find potential arbitrage opportunities.
- Investigate relationships within the power markets using correlation, regression analysis and fundamental supply and demand dynamics.
- Used Monte Carlo simulations and distribution fitting to value the cost of a flexible gas contract.
- Research all aspects of emerging technologies which generate power and gas including regulations. Build business cases and find possible opportunities within these markets.
- Interact with clients regularly to find bespoke solutions and network in the industry by attending conferences. Gained understanding and experience of over the counter trading in the energy markets.

Warwick University, UK - Undergraduate Researcher**Jun 2015 - Sep 2015**

- Conducted research on the optimal timing decision for executives of when to exercise options given they can exert managerial effort to influence the underlying stock price.
- Presented findings to academics. Contributed to publishable work in this area.

Warwick Mathematics Institute, UK - Open Day Speaker**Oct 2014 - Mar 2015**

- Presented regularly to an audience of over 300 visitors promoting my department.

Warwick in Africa, South Africa - Volunteer Teacher**Jul 2014 - Aug 2014**

- Prepared and taught lessons, covered for teachers and coordinated trips and clubs. Managed a classroom despite language and cultural barriers. Adapted in an unpredictable environment with limited resources.
- Equipped teachers with new techniques and classroom activities. The class average increased by 30%.

Harrogate and District NHS Foundation Trust, UK - Volunteer Auditor**Aug 2013**

- Audited a patient care pathway. Analysed data to recommend improvements to the implementation.

POSITIONS OF RESPONSIBILITY

Athena Swan - Undergraduate Representative**Mar 2014 - Jun 2016**

- Obtained funding and support from the department for weekly coffee mornings aimed at women.
- Publicised, developed and led coffee mornings. Coordinated speakers, workshops and discussions.
- Campaigned successfully for a new position on the executive of the Warwick Mathematics Society whose role is to continue and develop these events.
- Increased the ratio of male to female on the executive of Warwick Mathematics Society from 8:1 in 2014 to 3:2 in 2015, as a direct result.

Societies - University of Warwick**Feb 2014 - Feb 2015**

- Revision Guides Editor for Warwick Mathematics Society. Edited and printed over 20 revision guides which accumulated in over 3000 printed copies for over 800 members. Implemented an online request form to deal with demand and supply issues the society had experienced.
- Head of Class for Warwick Yoga Society. Liaised with the yoga instructor on matters concerning administration, replacements and remuneration. Planned, promoted and ran events as part of a team such as yoga brunch and other socials.

SKILLS AND INTERESTS

Computing: Microsoft Excel (Advanced), VBA (Advanced), MATLAB (Advanced), LaTeX (Advanced), Python (Intermediate), SQL (Intermediate), HTML (Intermediate), Java (Basic),
Interests: Learning Mandarin, Yoga, Cooking, Reading, Rock Climbing.