JOY TOLIA

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SKILLS

Computing: Python, Java, q/KDB+, Matlab, Microsoft Excel, LaTeX, Bash, SQL, Git

WORK EXPERIENCE

Auguration - *Senior Quantitative Researcher* July 2021 - Current

- Researching equity market neutral/statistical arbitrage alpha signals with holding period of hourly to daily
- Managing a team of researchers and developers
- Building and maintaining a graph based research platform using Java and Python
- Running simulations on ensembled signals derived from custom regression methods
- Conducting hyperparameter tuning for a multi period optimiser
- Built infrastructure for intraday trading signals including a tick market data service

Mizuho - *Quantitative Trader* June 2020 - July 2021

- Managed the eFX spot trading book
- Researched and analysed data to improve the eFX platform. This includes working with large data, backtesting/simulations, A-B testing, alpha signal generation, optimisation and markout analysis
- Guided the development team to improve the market making algorithms through quantitative modelling
- Established a code base in Python and q, for quantitative analysis and research

Norges Bank Investment Management - *Quantitative Trader* October 2017 - June 2020

- Researched, developed and ran systematic standalone trading strategies for spot FX using Python and Matlab. Focusing on strategies with a holding period between hourly and monthly
- Systematised the FX execution of the fund by building intra-day models balancing risk and costs
- Built a code base for backtesting hypotheses over multiple asset classes. Run time is optimised using object orientated code, parallelisation and dependency networks (graph based)

Systematica Investments - *Quantitative Researcher* September 2016 - September 2017

- Researched and generated systematic trading strategies for futures and forwards using Matlab. Working with asset classes such as FX, commodities, equity indices and fixed income with holding period of a week
- Implemented and maintained a market neutral cross asset portfolio combining multiple trading signals

Royal Bank of Scotland - *Graduate Quantitative Analyst* September 2015 - August 2016

- Developed and maintained the C++ library for the Balance Guaranteed Swaps trading team
- Worked in the corporate risk advisory team and conducted bespoke analysis to optimize corporate foreign exchange and interest rate risk exposures using Matlab

EDUCATION

Certificate in Quantitative Finance - *CQF* January 2016 - August 2016

- Overall Mark: **98%**, Exam Mark: **97%**

University of Warwick - *First Class MMath in Mathematics* October 2011 - June 2015

- First Year: **78%**, Second Year: **84%**, Third Year: **81%**, Fourth Year: **90%**
- Relevant modules: Stochastic Analysis, Brownian Motion, Uncertainty Quantification, Data Assimilation, Matrix Analysis & Algorithms and High Performance Computing

· Fourth year project entitled Asynchronous Parallel Numerical Optimization. Utilised parallel computing in Matlab. Designed and implemented an algorithm for function optimization based on genetic algorithms

The Latymer School - *Secondary School* September 2004 - June 2011

· A-Levels: Mathematics (**A***), Further Mathematics (**A***), Physics (**A**)
· AS-Levels: Economics (**A**), Additional Further Mathematics (**A**)
· GCSEs: 4 **A*s**, 4 **As** and 1 **B**

POSITIONS OF RESPONSIBILITY

Student-Staff Liaison Committee - *Fourth Year Representative* October 2011 - June 2015

· Communicated with students from the mathematics department regarding any issues or concerns
· Presented these issues or concerns to the committee to discuss solutions and provide feedback

Warwick Mathematics Society - *Vice President* February 2014 - February 2015

· Promoted society events through weekly emails as well as organising events
· Prepared and presented a revision lecture to an audience of over 300 students, with positive feedback
· Composed revision guides to be printed and made available to over 800 students
· Coordinated a LaTeX workshop to equip students with necessary skills for academic writing

Warwick Poker Society - *Communications Officer* June 2013 - June 2014

· Built a new website to help publicise information about the society and upcoming events
· Taught members about possible mathematical and analytical strategies to improve their game play

Warwick Maths Society - *Social Secretary* February 2012 - February 2013

· Organised social events for the members of the society and the Maths department
· Advised students struggling with their work and assisted in making of revision material

ACHIEVEMENTS

- Received the Wilmott Award for Excellence 2016 (CQF)
- Won the Willhock Prize for Mechanics 2011 (The Latymer School)
- Placed 4th in the Regional Finals of the UKMT FMSP Team Maths Challenge 2010
- Completed the National Cipher Challenge 2010
- Chosen for the inter-cadet target shooting competition 2009 (Bisley) and came 116th in the country