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December 22, 2020

Marshall Wace LLP,
George House,
131 Sloane Street,
London, SW1X 9AT,
United Kingdom

Dear Ms. Thorne,

I am writing to you to apply for a suitable position in Marshall Wace LLP, most likely in quantitative research, quantitative trading or something related.

I worked in the Marshall Wace London and Hong Kong offices before in 2013/2014, as a kdb+ engineer. I enjoyed the working atmosphere, and I was interested in the work done by the QR and QT teams but I was not qualified enough for that work at that time.

In the meantime, I have done an MSc in Informatics and I have worked as a data engineer in Edinburgh airport. I have completed a PhD in Computer Science. I have presented my research at number of international conferences. I have done an internship in CheckRisk, a risk analysis company. I have also worked as a teaching assistant and an exam supervisor. Lastly, I have developed and matured personally.

During the MSc and PhD, I learned and implemented the skills that I was lacking in 2014. So I am a good candidate for Marshall Wace now. Thank you for your consideration. I'll look forward to your response.

Sincerely,

Thomas J. Delaney

Thomas J. Delaney, PhD

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: thomasjdelaney \diamond : tjwdelaney

EDUCATION

University of Bristol

Sept 2016 - July 2020

PhD in Computer Science. Specialised in computational neuroscience.

Thesis: ‘Investigating, implementing, and creating methods for analysing large neuronal ensembles’

Multiple international conference presentations

Publication in preparation: ‘Local and global neural ensembles at fast and slow timescales’

University of Edinburgh

Sept 2014 - Sept 2015

MSc in Informatics

Thesis: ‘How informative are retinal ganglion cell responses about visual stimuli?’

Modules included: Neural Computation, Machine Learning & Pattern Recognition, Reinforcement Learning, Neural Information Processing, etc.

Overall Result: Distinction

Trinity College, Dublin

Sept 2007 - June 2011

B.A. in Mathematics

Including two years of Theoretical Physics

Final Year Project on Quantum Topos Theory, Poster Project ‘Biomechanics of Human Motion’

Modules included: Mathematical Neuroscience, Information Theory, Functional Analysis, etc.

Overall Result: 1.1

EXPERIENCE

Neuromatch Academy

July 2020

Teaching Assistant

Online (Bristol, England)

- Teaching assistant for 3 week Computational Neuroscience Summer school. Entirely online.
- Responsible for the learning outcomes of a group of seven BSc and MSc students in attendance.
- Facilitated completion of daily workshops, and oversaw work on two group projects.

University of Bristol

Sept 2016 - July 2020

Teaching Assistant

Bristol, England

- Teaching Assistant for Computer Science and Engineering Mathematics undergraduate and MSc courses:
 - Applied Statistics, 3rd year & MSc course, 2018 – 2020, \sim 80 students.
 - Machine Learning, 3rd year & MSc course, 2019, \sim 300 students.
 - Data Structures & Algorithms, 2nd year course, 2019, \sim 200 students.
 - Algorithms, 1st year course, 2018, \sim 200 students.
- Marking for undergraduate courses:
 - Algorithms, 1st year course, 2018, \sim 200 students.
 - Computational Neuroscience, 3rd year & MSc course, 2018 – 2019, \sim 300 students.
- Prepared workshop for prospective computer science students on university open day.

University of Bristol
Chief Examination Invigilator

January 2017 - July 2020
Bristol, England

- Supervised ~ 50 exam rooms.
- Included exam rooms for a single student or up to 800 students.
- Responsible for set-up, role taking, reportage of malpractice, safe transport of exam scripts and papers.

CheckRisk LLP.
Research Intern

June 2018 - September 2018
Bath, England

- Internship at financial risk assessment company.
- Researched cutting-edge forecasting methods including statistical, machine learning and hybrid methods, including recurrent neural networks.
- Applied these methods to financial data to evaluate domain suitability.

Edinburgh Airport Ltd.
Data Engineer

Jan 2016 - Aug 2016
Edinburgh, Scotland

- Worked as a key member of the Airport's Digital team with a mandate to change every interaction with the airport using technology, data and innovation.
- Main responsibility was taking data from airport businesses and extracting insights efficiently.
- Worked with teams such as Commercial, Security, Airfield, Forecasting and Planning to extract, transform and load data, making these datasets useful for these teams, and Edinburgh Airport's senior management.

First Derivatives Plc.
Consultant Software Engineer

June 2011 - Aug 2014
Newry, Ireland

- Worked as a software engineer on in-house projects, and as a consultant for financial companies.
- Four months as kdb+ consultant in Morgan Stanley New York offices, working on the creation and upkeep of a large historical and real-time financial database.
- Four months as kdb+ consultant and team leader in off-shore development centre for Morgan Stanley.
- Seventeen months as kdb+ consultant in a highly responsible role in the London based hedge fund Marshall Wace Asset Management. Worked in the London and Hong Kong offices.
- Final three months in team-leader role utilising in-house software for performance reporting on First Derivatives FX trading platform.

TECHNICAL STRENGTHS & ONLINE PROFILES

Computer Languages	Python, Julia, Matlab, Bash, q/kdb+, Java, c++, Batch, L ^A T _E X
Spoken Languages	English, Irish (proficient), French (basic)
Protocols & APIs	FIX messaging protocol, Geneos monitoring API
Databases	kdb+, MySQL
Tools	git, SVN, Vim, crontab, Autosys, Eclipse, Scoop for Parallel Processing

TRAINING COURSES

Advanced Computing Research Centre

Training courses available to University of Bristol students & staff

Sept 2018 - Present
Bristol, England

- Modern C++
- High performance computing
- Introduction to modern Fortran
- Version control using Git
- Applied data analysis with Python