Thomas J. Delaney, PhD

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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'
Featured a dynamic model of calcium fluorescence, statistical models of activity in neuronal ensembles
Multiple international conference presentations, and a publication in preparation.

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 undergraduates and master's 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, ∼ 80 students.
  - Machine Learning, 3rd year & MSc course, 2019, ∼ 300 students.
  - Data Structures & Algorithms, 2nd year course, 2019, ∼ 200 students.
  - Algorithms, 1st year course, 2018, ∼ 200 students.
- Marking for undergraduate courses:
  - Algorithms, 1st year course, 2018, ∼ 200 students.
  - Computational Neuroscience, 3rd year & MSc course, 2018 – 2019, ∼ 300 students.
- Prepared workshop for prospective computer science students on university open day.

University of Bristol January 2017 - July 2020
Chief Examination Invigilator *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. June 2018 - September 2018
Research Intern *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. Jan 2016 - Aug 2016
Data Engineer *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 involved taking in data available from around the business and extracting insights quickly and at low cost.
- 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. June 2011 - Aug 2014
Consultant Software Engineer *Newry, Ireland*

- Worked as a software engineer on in-house projects, and as a consultant for different financial companies and institutions.
- 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, LaTeX
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
Github	github.com/thomasjdelaney
LinkedIn	linkedin.com/in/tjwdelaney

SCHOLARSHIPS

Bristol PhD studentship, funded by the EPSRC
University of Edinburgh Informatics UK/EU Master's Scholarship 2014/2015
Exempt from Senior Freshman Mathematics Final Exams by virtue of Trinity Foundation Scholarship exam results.

TRAINING COURSES

Advanced Computing Research Centre Sept 2018 - Present
Training courses available to University of Bristol students & staff *Bristol, England*

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

Online learning Nov 2017 - Feb 2018
Neural Networks for Machine Learning *coursera.org*

- Course designed by Geoffrey Hinton, University of Toronto