

# Thomas J. Delaney, PhD

(+353) 0861275282 ♦ thomas.delaney@posteo.net

Ballyboggan Lower ♦ Castlebridge

Co. Wexford ♦ Ireland ♦ Y35 A4A3

✉ thomasjdelaney ♦  tjwdelaney

## EDUCATION

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### 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

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### Neuromatch Academy

July 2020

*Teaching Assistant*

*Online (Bristol, England)*

- Teaching assistant for three-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, ~ 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**  
*Chief Examination Invigilator*

January 2017 - July 2020  
*Bristol, England*

- Supervised  $\sim 50$  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

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

## TRAINING COURSES

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**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