Nathan Cunningham

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SUMMARY

Self-motivated PhD student in statistics with experience working in data science and a proven track-record of communicating complex statistical analyses for general consumption.

RESEARCH
INTERESTS

Cluster analysis, Monte Carlo methods, applied statistics, Bayesian analysis, statistics for public policy

EDUCATION

University of Warwick

PhD candidate, OxWaSP (Oxford-Warwick Statistics Programme), October 2015 (expected graduation date: 2019)
- Thesis Topic: "Particle Monte Carlo Methods to Integrate Multiple Datasets with Applications to Cancer Subtype Identification"
- Supervisors: Professor David L. Wild (University of Warwick) & Professor Jim E. Griffin (University College London)
- Modules: Machine learning, computational statistics, stochastic simulation, scalable methods and analysis of large complex data

University College Dublin

MSc, Statistics, first class honours degree, August 2012
- Dissertation Topic: "Model-based Clustering with Application to Fossil Pollen Spectra"
- Supervisor: Professor Andrew Parnell

BSc, Economics & Finance, first class honours degree, August 2011

HONOURS AND
AWARDS

Turing Enrichment Scholarship 2017/18
I was selected as an enrichment student for the academic year of 2017/18, providing me the opportunity to work on my Ph.D. within the Alan Turing Institute, the U.K.'s national center for data science and artificial intelligence.

Miriam Hederman O'Brien Prize 2016
shortlisted for award recognising outstanding contribution to Irish fiscal policy for my involvement in a report examining the potential costs of implementing universal health insurance in Ireland.

Royal Statistical Society/Significance Magazine Young Statistical Writer award 2014
selected as a finalist for my article *'Does Christmas really come earlier every year?'*

SELECTED
PUBLICATIONS

Journal Articles
- A. Brick, S. Smith, C. Normand, S. O'Hara, E. Droog, E. Tyrrell, N. Cunningham & B. Johnston. 2017. *Costs of formal and informal care in the last year of life for patients in receipt of specialist palliative care.* Journal of Palliative Medicine.
- S.J. Sinnott, A. Brick, R. Layte, N. Cunningham & M.J. Turner. 2016. *National Variation in Caesarean Section Rates: A Cross Sectional Study in Ireland* PLOS ONE.

Articles
- N. Cunningham. 2016. *Is Christmas really coming earlier? Maybe, but not as early as August.* Significance Magazine.
- N. Cunningham. 2016. *Lost in the crowd? A statistician explains how to find your friends at a music festival.* Significance Magazine.

Reports

- M.A. Wren, S. Connolly & N. Cunningham. 2015. *An examination of the potential costs of universal health insurance in Ireland.* ESRI Research Series.

PROFESSIONAL
EXPERIENCE

Alan Turing Institute, British Library, Kings Cross, London
Data Science Research Assistant   **October 2018 - April 2019**
Worked on a team developing machine learning models for the prediction of patient readmissions for NHS Scotland.

University of Warwick, Department of Statistics, CV4 7AL, Coventry
Academic tutor   **October 2016 - September 2017**
Worked as an academic tutor throughout my PhD in the University of Warwick, giving tutorials in mathematical techniques and probability and guiding undergraduates in the use of statistical software. This involved guiding tutorial sessions, correcting assignments and providing feedback to students.

Economic and Social Research Institute Whitaker Square, Dublin 2, Ireland
Data Analyst   **September 2012 - September 2015**
Employed as a data analyst in the health research division of the Economic and Social Research Institute. This involved working with the national statistics on hospital admissions and births, preparing and disseminating data, and working on a number of research projects to inform government policy. I was involved in fitting classification models to predict deaths during a hospital admission in order to compare mortality ratios across hospitals. As the intended audience of the research was rarely fellow statisticians this experience has helped me develop skills in presenting results of statistical analyses to lay readers.

I also worked on the sports & social committee for the duration, helping in the regular planning of social events.

University College Dublin Belfield, Dublin 4, Republic of Ireland
Academic tutor   **September 2011 - May 2012**
Worked as an academic tutor throughout my Master's degree in University College Dublin, helping groups of first year students become familiar with statistical packages.

SOFTWARE
PROFICIENCY

- Statistical Packages: R, Julia, Python, Matlab, SPSS, Stata, some experience with C++, CUDA
- Applications: LaTeX, Microsoft Word, Microsoft Excel

OTHER INTERESTS   I enjoy writing informal articles exploring the applications of statistics in the real world. Some of these have been published by Significance Magazine and many have been picked up in the media; I discussed my article on how to find your friends at music festivals with Tim Harford for the More or Less podcast and on BBC's Midlands Today. I write a regular piece on whether Christmas comes earlier every year which regularly features across UK and Ireland newspapers, including The Times, and I have discussed my findings on a number of radio interviews and at the annual conference of the Royal Statistical Society. An article I wrote for my personal blog, 'i before e except after...w?' was featured in the Washington Post, and many of my other articles have featured in various publications globally.

Other than statistics I enjoy playing music. I have been playing guitar and traditional Irish fiddle since my early teens and have performed live on a number of occasions.

REFERENCES   Available on request