Aidan Boland PhD

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Employment

2018 - Present **Senior Data Scientist**, Edge by Ascential, O'Connell Bridge House, Dublin 2.
(Formerly Clavis Insight)

2016 - 2018 **Data Scientist**

Researching and implementing various statistical methods for use within eCommerce insights and analytics.

Supervising and delivering statistical analysis projects for clients.

Developed API in R which uses supervised classification to remove manual data input and QA testing.

Created suite of UI's tailored for specific tasks within the organisation, allowing users to interactively manage data and apply machine learning techniques to simplify problems.

Created end to end process including GUI's to allow users easily perform intelligent text matching.

Co-supervised Trinity College Dublin final year student projects in the area of machine learning.

Lecturer, University College Dublin, Belfield, Dublin 4.

Autumn 2019 Preparing and delivering lectures for a postgraduate online module titled 'Intro to Data Analytics' in the School of Mathematics and Statistics.

Spring 2019 Delivered lectures for an undergraduate module titled 'Data Analysis for Decision Makers' in the Lochlann Quinn School of Business.

Spring 2016 Lectured an online undergraduate module in the School of Mathematics and Statistics titled 'Practical Statistics'.
Coordinated tutors and teaching assistants for computer labs in Minitab and R.

2015 - 2016 **Postdoctoral Researcher**, Insight Centre for Data Analytics, UCD, Belfield, Dublin 4.
& Clavis Insight, O'Connell Bridge House, Dublin 2.

Researched text classification methods for use in e-commerce analytics.

Involved research into both supervised and unsupervised text classification methods with the aim of solving an industry specific problem.

2010 - 2015 **Tutor**, University College Dublin, Belfield, Dublin 4.

Tutored undergraduate and postgraduate students over a broad range of courses including probability theory, actuarial statistics, Bayesian analysis, data programming and multivariate analysis.

Demonstrated and tutored computer practical classes (SAS, R and Minitab) of up to fifty students for both undergraduates and postgraduates.

Graded undergraduate and postgraduate assignments in addition to final examinations.

Created screencasts and administered discussion boards for an online module: 'Data programming with R'.

Summer 2012 **Statistical Consultant**, AOL, Heuston South Quarter, Dublin 8.
Undertook a three month study to create an algorithm to automatically detect spam searches on AOL's search engine.

Summer 2011 **Statistical Consultant**, CSTAR, University College Dublin, Belfield, Dublin 4.
Carried out consultations and analysis for health sciences researchers.

Education

2011 - 2015 **PhD. in Computational Statistics**
University College Dublin, Belfield, Dublin 4.

Title: 'Overcoming Intractable Likelihoods' (Supervisor: Prof. Nial Friel).

Improved simulation methods for estimating intractable likelihoods in area's such as spatial statistics and social network analysis.

2010 - 2011 **M.Sc. in Statistics (First Class Honours)**
University College Dublin, Belfield, Dublin 4.

Minor thesis: 'Supervised Probabilistic Classification' (Supervisor: Prof. Nial Friel).

Courses covered: Multivariate Analysis, Mathematical Statistics, Bayesian Analysis, Time Series Analysis, Applied Statistical Modelling, Data Programming, Monte Carlo Inference and Stochastic Models.

2006 - 2010 **B.Sc. Degree in Mathematical Science (Upper Second Class Honours)**
University College Dublin, Belfield, Dublin 4.

Skills

Software
10 years experience with R:
- Code in daily use within a production environment.
- Suite of UI applications developed using the Shiny library.

Working knowledge in SQL (Postgres, MySQL), Python, HTML, Docker, LaTeX, C, SAS, SPSS.
Familiar with Amazon Web Services, command line tools.

Mathematical Methods

Machine Learning:
Supervised classification: maximum entropy, nearest neighbour techniques, random forests, regression, deep neural networks.
Unsupervised classification: latent Dirichlet allocation, k-means, support vector machines.

Statistical Analysis
Bayesian regression, maximum likelihood estimation, Markov chain Monte Carlo, time series, approximate Bayesian computation, bootstrapping, survival analysis, principal components analysis, non-parametric methods.

Selected Presentations

'An R Case Study: From Research to Production', CASI 2018 (Conference on Applied Statistics in Ireland).
'Using R to automate the classification of e-commerce products', EARL Boston 2017 (Enterprise Applications of the R Language).
'Efficient MCMC for Gibbs Random Fields using pre-computation', Scalable Monte Carlo workshop at NIPS 2015 (Neural Information Processing Systems).

Publications

Boland, A., Maire, F., Friel, N., (2018) 'Efficient MCMC for Gibbs Random Fields using pre-computation'. *Electronic Journal of Statistics*.

Alquier, P., Friel, N., Everitt, R. and **Boland, A.**, (2014) 'Noisy Monte Carlo: convergence of Markov chains with approximate transitions kernels'. *Statistics and Computing*.

Awards

Graduate Statistician (GradStat), professional membership of the Royal Statistical Society.

Interests and activities

I enjoy all kinds of sport. I am particularly interested in rugby and formerly played with Bective Rangers Football Club and Kilkenny RFC. In addition, I enjoy playing golf and have represented Kilkenny Golf Club at Junior Level for which I hold two Leinster medals. Further interests include soccer, tag rugby and socialising with friends.