Jonny Evans

Theory

- Random forests
- Deep learning
- Clustering
- Regression
- Bayesian networks
- Statistics
- Optimisation
- Graph theory

Communication

- Presentations
- Academic and technical writing
- Interviews
- Surveys
- Stakeholder engagement
- Cross-discipline collaboration
- Negotiation
- Leadership

Education

Machine Learning PhD student, Transportation Research Group, University of Southampton, U.K. (July 2016 – Present).
Project funded by EPSRC and Siemens Mobility Limited. Experience included:

- Developed machine learning algorithms for road traffic forecasting and incident detection. Contribution in the novel use of contextual features, such as sporting events, public holidays, weather, school dates etc.
- Trialled the incident detection algorithm in one of Siemens' client's Traffic Management Centres. Involved developing a web app that displayed the incident detection algorithm's alerts to a team of operators in real-time.
- Currently collaborating with Siemens to implement the developed traffic forecasting algorithm in clients' products.
- PhD featured in University's Re:action magazine (page 13).
- Attended and presented at global academic and industry conferences.
- Interviewed Traffic Management Centre managers and operators on the state of incident detection in the U.K.

BSc Mathematics, University of Birmingham, U.K. (2012-2015).
First class honours. Blackburn Prize for highest mark in graduating year group in final year research project, entitled 'Google's PageRank algorithm'.

Work Experience

Graduate Consultant in Intelligent Transportation Systems, WS Atkins plc. (September 2015 - June 2016).

- Head of stakeholder engagement for a feasibility study regarding the deployment of 'temporary' electric vehicle (EV) rechargers across the U.K. for Highways England. Tasks included:
  - Conducting interviews.
  - Organising, presenting and debating at meetings with key stakeholders.
  - Case study research (online, by phone and by site visit).
  - Conducting financial analysis into the consumer cost of EV chargers.
  - Developing maps of areas of the U.K. that were within certain distances from static EV chargers.
  - Co-authored the final report to Highways England, which was subsequently published (see publications section).
- Managed a small team of graduates and apprentices to monitor CCTV cameras for a project that assessed the use of Smart Motorways in the U.K.

Programming

- Python (3 years)
- C# (2 years)
- MATLAB (1 year)
- Visual Basic (1 year)
- SQL (2 years)
- Docker (1 year)
- Git, GitHub (1 year)
- LaTeX (4 years)

Data science libraries

- Scikit-learn (3 years)
- Keras (1 year)
- TensorFlow (1 year)
- NumPy (3 years)
- Pandas (3 years)
- Matplotlib (3 years)
- Seaborn (1 year)

- Conducted analysis to find the optimal locations to implement ramp meters in North Carolina, U.S.A., based on safety, traffic and geometry data. Co-authored the final report to the North Carolina Department of Transportation, which recommended the 30 most suitable ramp meter locations for implementation (of 249 candidate locations).
- Collaborated with the Data Science team in a project to build a Visual Basic for Applications (VBA) based Excel model of household recycling across Hampshire, U.K., for Hampshire County Council policy advisors.
- Helped to develop bids for work, which included orchestrating colleagues from many different disciplines of the company.

Summer Intern, Cirrus Logistics Ltd. (June/July 2014).
Tested and developed software that optimised the scheduling of shipping berths.

Summer Intern, Mentor Graphics Corp. (August 2011).
Tested software and built CAD models in SolidWorks.

Publications

- 'A random forest incident detection algorithm that incorporates contexts'. Jonny Evans, Ben Waterson, Andrew Hamilton. In proceedings of the 15th World Conference on Transport Research, Mumbai, India, 26th-31st May 2019.
- 'RoadCast: An algorithm to forecast this year's road traffic'. Jonny Evans, Ben Waterson, Andrew Hamilton. In proceedings of the 97th annual meeting of the Transportation Research Board, Washington D.C., U.S.A., 7th-11th January 2018.
- 'Temporary electric vehicle recharging'. Matthew Clarke, Andrew Muir, Jonny Evans, Dean Kerwick-Chrisp. In proceedings of the 11th ITS European Congress, Glasgow, Scotland, 6-9th June 2016.

Personal

- Building up a portfolio of data science pet projects on Kaggle and GitHub. Including:
    - A VBA based Excel add-in named SymbolFix, which auto-formats engineering symbols. Created to help colleagues at Atkins save time, and improve my coding skills. It is still being used regularly today by ex-colleagues.
- Keen follower of Effective Altruism.
- Played table tennis since the age of nine, with a highest ranking of 2nd in England in under 13s. Coached players of various ages and abilities.
- Social Secretary of the University of Birmingham table tennis club. Negotiated the purchase of new tables for the club.