

Profile

I am finishing my Ph.D. at Cardiff Metropolitan University (completion August 2019) where my focus has been using statistical modelling techniques to predict sports injuries in athletes. Getting to this stage has required dedication and determination, as well as efficient time management and excellent organisational skills. I am able to work effectively within a team environment, but also excel when working independently. I have a keen interest in data science and believe the skills I have developed during my Ph.D. are highly transferable to other areas of data modelling. I also have a passion for athletics, where I have competed at a high level for several years.

Key skills and Attributes

Data science | Predictive modelling | R | Python | Spark | Interactive dashboards | Adaptable | Driven | Problem solving

Education

2016 - 2019	Ph.D. Cardiff Metropolitan University
2013 - 2015	M.Sc University of Wyoming
2011 - 2013	B.Sc.(Hons) Cardiff Metropolitan University

Skills developed from Ph.D.

- Substantial experience using R and R Markdown (self taught) to run complex statistical models and produce high quality technical documents throughout my Ph.D.
- Highly Proficient in a number of data cleaning, wrangling and visualisation techniques using a wide variety of methods in R.
- Strong statistical knowledge using several different techniques including Bayesian multilevel modelling, generalised linear models and probabilistic network analysis.
- Experience using a wide range of contemporary packages for machine learning problems including; caret, parsnip, repecies
- Basic understanding of key libraries in python including NumPy, Pandas and Scikit-learn as well as using R package sparklyr for accessing Apache Spark to work with large data sets.
- Experience using GIT and Github for my own version control during my Ph.D. write-up and for sharing reports with my supervisory team.
- Collaboration with other Ph.D. students to work on research projects involving large datasets of rugby injuries, requiring a high level of communication and effective team work to ensure timely data analysis and dissemination of results.
- Strong ability to plan and work independently, while remaining flexible to honour other commitments such as coaching and voluntary work.

Employment

2016 - Current	Academic Associate Cardiff Metropolitan University
2017-2018	Sports Science Support Sport Wales (Voluntary role)

2015 - 2016 **Athletics Coach**
Cardiff Metropolitan University

Skills developed from employment

- My role as an academic associate included:
 - Planning and delivery of learning and teaching in a breadth of fields including psychology, biomechanics and physiology.
 - Collaboration with module leaders to ensure high standards of teaching were met and maintaining high levels of student satisfaction.
 - I supported both dissertation students and staff members in a range of research projects in both the collection and analysis of data, including the application the novel analysis methods I developed during my PhD.
 - I also conducted administrative roles including marking students coursework and examinations where I provided constructive feedback contributing to students development.
- My voluntary role with Sport Wales included:
 - Collaboration with several members of the sport science and sports medicine support team to record, analyse and disseminate data to relevant parties on athletes' performance and injury status in a timely manner.
 - Critically review information regarding athletes health and wellbeing and use it to inform future training or competition and make evidenced based, data driven decisions regarding athletes welfare.
 - Responsible for tailoring the delivery of results to suit different audiences audience - including both formal and informal presentations to staff, coaches and athletes.

Achievements

- Secured funding for my PhD through the highly competitive Research Innovation Award at Cardiff Metropolitan University (2016).

Projects on Github

- Interactive dashboard for visualising athletics results: <https://bit.ly/2KbpTdu>
- Summary of Ph.D. study using Bayesian Networks: <https://bit.ly/31aqkM1>
- Discussion of analysis techniques considered in Ph.D.: <https://bit.ly/316nDuy>

Publications

2016 **Relationship between force production during isometric squats and knee flexion angles during landing**
H Fisher, ML Stephenson, KK Graves, TJ Hinshaw, DT Smith, Q Zhu, ...
Journal of strength and conditioning research, 30 (6), 1670-1679

References

References are available upon request