MARTIN INGRAM

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EDUCATION

University of Melbourne, Melbourne, Australia 2018-present
Department of BioSciences
Ph.D., Science (in progress). Advisors: Nick Golding, Damjan Vukcevic.

Imperial College London, London, UK 2014-2015
MSc., Computing Science. Distinction (82.8%).
Thesis title: *Predicting the outcome of professional tennis matches.* Advisor: W. Knottenbelt.
Group project: *The Intelligent Tennis Court.* Won MSc. Group Project Prize for best group project.

University of Cambridge, Cambridge, UK 2011-2014
BA., Natural Sciences (Physical). II.1.

PROFESSIONAL EXPERIENCE

Silverpond 2016-2019
Machine Learning Engineer *Melbourne, Australia*

My role was to develop machine learning software for business clients, particularly using computer vision. This involved identifying relevant academic papers, writing code to implement and test promising approaches, and working with clients to collect the required data.
(full-time: 2016-2018; part-time: 2018-2019)

Stratagem Technologies 2015-2016
Quantitative Researcher *London, UK*

I built protoype computer vision software to detect ball, players and goal from broadcast soccer footage using deep learning.

SPI Lasers Summers, 2011-2013
Research Intern *SPI Lasers, Southampton, UK*

I developed software to aid research on fibre lasers.

PUBLICATIONS

M. Ingram (2021). How to extend Elo: a Bayesian perspective. In *Journal of Quantitative Analysis in Sports.* [URL]

M. Ingram, D. Vukcevic, N. Golding (2020). Multi-output Gaussian processes for species distribution modelling. In *Methods in Ecology and Evolution.* [URL]

M. Ingram (2019). A point-based Bayesian hierarchical model to predict the outcome of tennis matches. In *Journal of Quantitative Analysis in Sports.* [URL]

S. Kovalchik, **M. Ingram** (2018). Estimating the duration of professional tennis matches for varying formats. In *Journal of Quantitative Analysis in Sports.* [URL]

S. Clarke, S. Kovalchik, **M. Ingram** (2017). Adjusting Bookmaker's Odds to Allow for Overround. In *American Journal of Sports Science.* [URL]

S. Kovalchik, **M. Ingram** (2016). Hot heads, cool heads, and tacticians: Measuring the mental game in tennis. In *MIT Sloan Sports Analytics Conference, 2016.* [PDF]

UNPUBLISHED ACADEMIC PAPERS

S. Kovalchik, **M. Ingram**, K. Weeratunga, C. Goncu (2020). Space-Time VON CRAMM: Evaluating Decision-Making in Tennis with Variational generatiON of Complete Resolution Arcs via Mixture Modeling. [arXiv URL]

M. Ingram (2019). Gaussian Process Priors for Dynamic Paired Comparison Modelling. [arXiv URL]

ACADEMIC PRESENTATIONS

Joint Statistical Meetings August 2020
Talk *Philadelphia, USA (virtual)*

How to extend Elo: A Bayesian perspective

International Statistical Ecology Conference June 2020
Talk *Sydney, Australia (virtual)*

Variational Multi-output Gaussian Process Models for Species Distribution Modelling

Bayes on the Beach November 2019
Poster *Gold Coast, Australia*

Multi-output Gaussian Process Models for Species Distribution Modelling

Australasian Conference on Mathematics and Computers in Sport July 2018
Talk *Sunshine Coast, Australia*

Predicting the outcome of tennis matches using Gaussian Processes

Applied statistics workshop, UC Louvain December 2018
Talk *Louvain-la-Neuve, Belgium*

Gaussian Processes for Paired Comparison Modelling

New England Symposium on Statistics in Sports September 2017
Talk *Boston, USA*

A point-based Bayesian hierarchical model to predict the outcome of tennis matches

MIT Sloan Sports Analytics Conference March 2016
Poster *Boston, USA*

Hot heads, cool heads, and tacticians: Measuring the mental game in tennis

PROFESSIONAL SERVICE

Journal Reviewing

- Journal of Quantitative Analysis in Sports
- European Journal of Operational Research
- Methods in Ecology and Evolution
- Journal of Applied Ecology

TEACHING

University of Melbourne, Melbourne, Australia 2019

I developed and taught a one-day workshop for Ph.D. students at the Department of BioSciences with the title "Introduction to Bayesian Modelling".

Silverpond, Melbourne, Australia 2017

I co-taught a two-day workshop on Deep Learning for software engineers.