

Paul Smith, Ph.D.

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🐙 GitHub

in LinkedIn

🌐 <https://pws3141.github.io/>

PhD-trained Statistician with advanced expertise in R (including R Shiny, Quarto, `{data.table}`, `{mlr3}`) and a solid foundation in statistical modelling, data visualisation, and reproducible research. Experienced in designing interactive dashboards, conducting complex health interventions research, and collaborating across interdisciplinary teams to inform data-driven decision-making.

Employment History

2023 –

📌 Statistician, NHS Blood and Transplant.

I perform statistical analysis using organ donation and transplantation data – turning complex datasets into actionable results – to help improve organ utilisation and help clinicians with statistical queries and hypotheses.

- Utilise R, SAS and SQL to conduct in-depth statistical analyses and causal inference on organ donation data using survival analysis and computational statistical techniques such as bootstrapping, simulation and Bayesian methods.
- Collaborate with universities (Newcastle, Cambridge) on research aimed at expanding organ availability and improving transplantation outcomes.
- Develop interactive dashboards with R Shiny and Quarto, providing real-time insights and supporting clinicians' decision-making.
- Champion reproducible workflows and transparent methodologies across analytic projects, using git and GitHub for version control and collaboration.

2023 – 2023

📌 Statistician, Equality and Human Rights Commission (Maternity Cover).

I had a key role in developing the portfolio of analyses across varied high-profile equality and human rights issues.

- Performed statistical quality assurance and analysis for high-profile equality and human rights reports, including the [Equality and Human Rights Monitor 2023](#).
- Modernised the commission's analytics platform by introducing R and Power BI for interactive dashboards, boosting public engagement.
- Worked closely with internal and external stakeholders on inquiries, investigations, and compliance relating to equality and human rights.

2020 – 2022

📌 Mathematics Teacher, St Gregory's Catholic College, Bath.

From September 2020 until July 2021 I was at St Gregory's Catholic College four days a week whilst on the 'Researchers in Schools' placement scheme. I obtained Qualified Teacher Status (QTS) in July 2021.

2017 – 2018

📌 Tutorial Teacher (Probability and Statistics), University of Leeds.





During my PhD at the University of Leeds, I taught small-group tutorials on foundational topics (probability theory, data analysis) to undergraduate students in the Mathematics Department.

2015 – 2016

📌 Investment Advisor (Pensions), KPMG LLP, London.


At KPMG I researched and presented investment strategies for large pension funds, including monitoring assets and liabilities. During this period, I enhanced my client-facing skills and stakeholder communication through reporting and presentations to clients and senior leadership.

Education


- 2020 – 2021  **PGCE, University of Hull** in Secondary School Teaching
To obtain the PGCE I studied teaching mathematics in a secondary educational setting, including the role of intrinsic and extrinsic motivation in the classroom.
- 2016 – 2020  **Ph.D., University of Leeds** in Statistics.
Thesis title: Forecasting Complex System Using Stochastic Models for Low Dimensional Approximations.
Supervisors: Dr. Jochen Voss, Dr. Elena Issoglio, Prof. Alan Haywood.
My PhD research involved developing methodologies for forecasting complex systems by simplifying their outputs, modelling the simplified data using stochastic processes, and then projecting the simplified forecasts back to the original high-dimensional output. I utilised machine learning techniques such as Principal Component Analysis, Independent Component Analysis, and k-means clustering, as well as stochastic differential equations to model low-dimensional data.
- 2011 – 2015  **MMath, University of Bristol** in Mathematics
First Class Honours.
Dissertation title: Estimating the Rate of Convergence of Monte Carlo Markov Chains.
- 2009 – 2011  **A Levels, The Minster School**
A* in Mathematics, Further Mathematics, and Physics; A in Geography.

Research Publications




Journal Articles

- 1 E. Issoglio, P. Smith, and J. Voss, “On the estimation of entropy in the fastica algorithm,” *Journal of Multivariate Analysis*, vol. 181, p. 104 689, 2021.  URL: <https://doi.org/10.1016/j.jmva.2020.104689>.

PhD Thesis

- 1 P. Smith, “Forecasting complex systems using stochastic models for low dimensional approximations,” 2020.  URL: <https://etheses.whiterose.ac.uk/id/eprint/27955/>.

Skills

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|-----------------|--|
| Coding |  Advanced: R (5+ years, including the tidyverse, <code>{data.table}</code> , <code>{mlr3}</code>); \LaTeX ; SAS.
Proficient: Python (NumPy, Pandas, scikit-learn, TensorFlow, Keras); SQL; Command-line tools (Linux, Bash). |
| Data Viz. |  Advanced: R Markdown, Quarto, R Shiny.
Proficient: HighCharts (via R using <code>{highcharter}</code>), Power BI. |
| Version Control |  Git, GitHub |

References

Available on Request