

KAREN JEFFREY

Data Scientist | Statistician | Political Economist

Website | Google Scholar | GitHub

SUMMARY

I am a skilled Data Scientist, Statistician, and Political Economist with expertise in surveys, prediction modelling, and causal inference. I have a PhD in Political Economy and eight years' experience as a Researcher in Economics and Medical Informatics.

EMPLOYMENT

2022 - 2024: Research Fellow, Medical Informatics: University of Edinburgh

Applied advanced data science techniques to design, conduct, and publish analyses of large, complex healthcare datasets. Collaborated with and clearly communicated complex analyses to clinicians, patients, and policy-makers.

2021 - 2022: Senior Intelligence Analyst, Public Health: NHS Lothian

Led the development of the Lothian Public Health Survey. Gathered, analysed, and interpreted data and communicated findings to support Public Health planning, policy design, and service delivery.

2017 - 2018: Senior Research Consultant: BBC Media Action

Managed evaluations of BBC Media Action's international development interventions. Funders included: UNICEF, FCO, DFID, Global Affairs Canada.

2013 - 2016: Researcher: New Economics Foundation (Think tank)

Carried out survey design and analysis and lobbied for policy to promote a transition to a socially just and environmentally sustainable society. Initiated a new research programme on "The Future of Work." Funders included: European Commission, Co-op, Kingfisher Group, Nuffield Health.

2011 - 2013: Analyst: Delta Energy and Environment (Consultancy)

Conducted research and modelling to forecast the impact of policy and technological developments on markets for renewable energy technologies. Clients included: DECC, E.On, British Gas, Bosch.

EDUCATION

2017 - 2021 **Ph.D. Political Economy (Pass with no corrections)** King's College London

Thesis: *Essays on the Political Economy of Automation.*

2009 - 2010 **M.Sc. Ecological Economics (Distinction)** University of Edinburgh

2003 - 2007 **B.A. (Hons.) Media (2:1)** Queen Margaret University

PEER-REVIEWED PUBLICATIONS

Jeffrey, K., Hammersley, V., Maini, R., et al. (2024). Deriving and validating a risk prediction model for long COVID: population-based, retrospective cohort study in Scotland. *Journal of the Royal Society of Medicine*. (In Press).

Jeffrey, K., Woolford, L., Maini, R., et al. (2024). Identifying long COVID using electronic health records: a national observational cohort study in Scotland. *eClinicalMedicine*. 71(102590).

Jeffrey, K. & Matakos, K. (2024). Automation anxiety, fairness perceptions, and redistribution: How past experience conditions the response to future job loss. *Journal of Economic Behavior & Organization*. 221, 174-190.

Shah, S.A., **Jeffrey, K.**, Robertson, C. and Sheikh, A. (2024). NHS Scotland's elective care backlog: national, regional, and speciality-based analysis and modelling to estimate capacity needs. (In press.)

Shi, T., Millington, T., Robertson, C., **Jeffrey, K.**, et al. (2024). Risk of winter hospitalisation and death from acute respiratory infections in Scotland: national retrospective cohort study. *Journal of the Royal Society of Medicine*. 117(7)

Millington, T., Morrison, K., **Jeffrey, K.** et al. (2024). Caveats in reporting of national vaccine uptake. *Journal of Global Health*. 14(03006)

Amele, S., McCabe, R., Kibuchi, E., et al. (2024). Quality of ethnicity data within Scottish health records: the implications of misclassification for the observation of ethnic inequalities in severe COVID-19: A national linked data study. *Journal of Public Health*. 46(1).

Macdonald, C., Palmateer, N., McAuley, A., et al. (2024) Association between antibody response post-vaccination and severe COVID-19 outcomes: national population-based cohort study in Scotland. *npj Vaccines*. (In press.)

Kerr, S., Greenland, S., **Jeffrey, K.**, et al. (2023). Understanding and reporting odds ratios and rate ratios in case-control studies. *Journal of Global Health* 13(04101).

Morrison, K., Cullen, L., James, A., et al. (2023). Predictors of incomplete COVID-19 vaccine schedule among adults in Scotland: Two retrospective cohort analyses of the primary schedule and third dose. *Vaccine* 41(40), 5863-5876

Kerr, S., Millington, T., Rudan, I., et al. (2023). External validation of the QCovid 2 and 3 risk prediction algorithms for risk of COVID-19 hospitalisation and mortality in adults: a national cohort study in Scotland. *BMJ Open* 13:e075958.

Jeffrey, K. (2021). Automation and the future of work: how rhetoric shapes the response in policy preferences. *Journal of Economic Behavior & Organization* 192, 417-433.

SELECTED THINK TANK PUBLICATIONS

Jeffrey, K., Abdallah, S. & Michaelson, J. (2017). The Cost of Loneliness to UK Employers. London: New Economics Foundation.

Jeffrey, K., Wheatley, H. & Abdallah, S. (2016). The Happy Planet Index 2016: A Global Index of Sustainable Wellbeing. London: New Economics Foundation.

Jeffrey, K. and Michaelson, J. (2015). Five Headline Indicators of National Success: A Clearer Picture of How the UK is Performing. London: New Economics Foundation.

Jeffrey, K., Mahony, S., Michaelson, J. and Abdallah, S. (2014). Well-being at Work: A Review of the Literature. London: New Economics Foundation.

ACHIEVEMENTS & AWARDS

2023 **Royal Statistical Society's Florence Nightingale Award** for excellence in healthcare data analytics.

2023 **Royal Society of Edinburgh's Mary Somerville Medal** as part of the EAVE II Team, for exceptional achievement in teamwork and collaborative endeavour.

Press coverage of research, including a recent study on long COVID (online, TV, and radio) and coverage of publications produced at the New Economics Foundation (covered by the BBC, Daily Mail, Financial Times, Herald, Independent, ITV, Observer, Telegraph, Forbes and international press in more than 30 countries worldwide).

GRANTS, FELLOWSHIPS & FUNDRAISING

2024 **Usher Institute Small Grant** University of Edinburgh (£650)

2022 **Data Skills for Work** The Data Lab (£300)

2020 **London Interdisciplinary Social Sciences Scholarship** ESRC (£9,000)

Small Academic Expenses Grant Royal Economic Society (£450)

Post-Graduate Research Bursary Grants King's College London (£1,000)

2019 **Post-Graduate Research Bursary Grants** King's College London (£500)

Cohort Activity Grant ESRC (£1,600)

2018 **Research Development Fund** King's College London (£2,000)

2017 **London Interdisciplinary Social Sciences Doctoral Scholarship** ESRC (£68,000)

Bentham PhD Fellowship University College London (£64,000, declined)

2011-16 Contributed to successful tenders for funding from European Commission, E.ON, British Gas, Vattenfall, Bosch, Vaillant, DECC, Co-op, & Kingfisher Group.

TEACHING & SUPERVISION

- 2018-20 **Teaching Assistant** The Political Economy of Inequality, King's College London
2018-19 **Teaching Assistant** Microeconomics 1, King's College London
2016 **Volunteer GCSE Maths Tutor** Action Tutoring
2015-16 **Masters Supervision** for MSc in Ecological Economics, University of Edinburgh.

INVITED TALKS AND CONFERENCE PRESENTATIONS

- 2024 **International Conference** Royal Statistical Society
2023 **Medical Informatics Seminar** University of Edinburgh
2022 **National Strategic Network for Long COVID** NHS National Services Scotland
Academic GPs Meeting on Long COVID University of Edinburgh
Primary Care Practitioners' Session Public Health Scotland
2021 **Political Science & Political Economy Seminar** London School of Economics
2020 **Political Behaviour Colloquium** European University Institute
Global Online Meeting Economic Science Association
Early Career Network Conference Political Studies Association
Early Career Researcher Seminar University of Southampton
NORFACE TECHNO Group Norwegian University of Science and Technology
Quantitative Political Economy Seminar King's College London
Centre for Experimental Social Sciences Conference New York University
2019 **Centre for British Politics, PhD Conference** King's College London
2018 **AI Safety and Policy Event** Artificial Intelligence Strategy and Policy Network
2016 **Parliamentary Roundtable: How Should We Measure National Success?** UK Government
2015 **Five Headline Indicators of National Success: Report Launch** Royal Statistical Society
2014 **European Social Survey Policy Seminar** OECD

PROFESSIONAL SERVICE

- 2021-present **Reviewer** BMJ Open; Oxford Bulletin of Economics and Statistics; European Journal of Political Economy; European Economic Review; Political Science Research & Methods.
2023-2024 **Impact Committee** Usher Institute, University of Edinburgh
2021-2023 **Journal Club Organiser** Medical Informatics Group, University of Edinburgh.
2018 **Conference Organiser and Chair** AI and Automation: Implications for researchers in the social sciences. One-day conference hosted at King's College London.
2018-20 **Reading Group Organiser** Formal Theory Group, King's College London.
2016 **Event Organiser and Chair** An evening in conversation with Ed Miliband MP and Nick Srnicek. The Future of Work: Harnessing new technologies to benefit all.
2014-16 **Secretariat** for the All-Party Parliamentary Group on Wellbeing Economics.

PROFESSIONAL MEMBERSHIPS

2024-present Office for National Statistics Accredited Researcher
2021-present European Association of Labour Economists
2020-21 Royal Economic Society
American Economic Association
Economic Science Association
2011-14 Institute for Environmental Management and Assessment (Associate Member)
2010-11 International Society for Ecological Economics

TRAINING

2024 **Research, GDPR and Confidentiality (renewal)** Medical Research Council
Safe Researcher Training UK Data Service
Data Science for Domain Scientists Data Science Unit, University of Edinburgh
2023 **Aspiring Manager Program** University of Edinburgh
Data Science in Stratified Healthcare & Precision Medicine University of Edinburgh
2022 **Machine Learning with Python** ED-DaSH, University of Edinburgh
High-Dimensional Statistics in R ED-DaSH, University of Edinburgh
GIT for Me: Introduction to GitHub Jumping Rivers
2021 **Managing Difficult Conversations** NHS Professionals
2018 **Introduction to R for Biostatistics and Health Informatics** King's College London
PhD Summer School: Applied Microeconomics University of Lancaster
2017 **Principles of Economics with Calculus (MOOC)** California Institute of Technology
Calculus 1a and Calculus 1b (MOOC) Massachusetts Institute of Technology
2014 **Introduction to Statistics Using SPSS** Imperial College London
2013 **Statistics: Making Sense of Data (MOOC)** University of Toronto
Introduction to Computer Science and Programming in Python (MOOC) MIT

SOFTWARE SKILLS

R, L^AT_EX, Qualtrics, SPSS, Microsoft Office

REFEREES

Available on request.