

Ryan Thompson

Rm 1050 Anita B. Lawrence Centre · UNSW Sydney 2052 · Australia
ryan.thompson-1@uts.edu.au ·  ryan-thompson.github.io

Appointments

Research Associate, School of Mathematics and Statistics Jun 2022–pres.
University of New South Wales

Education

Doctor of Philosophy in Mathematics and Statistics Feb 2019–Sep 2022
Monash University

Bachelor of Commerce (Honours) in Business Analytics Mar 2016–Nov 2016
University of Sydney

Bachelor of Commerce in Econometrics and Finance Mar 2013–Nov 2015
University of Sydney

Publications

Lyu, Z., Ahfock, D., Thompson, R., and McLachlan, G. J. (2024). ‘Semi-supervised Gaussian mixture modelling with a missing data mechanism in R’. *Australian and New Zealand Journal of Statistics* 66.2, pp. 142–162.

Thompson, R., Bonilla, E. V., and Kohn, R. (2024). ‘Contextual directed acyclic graphs’. *Proceedings of the 27th International Conference on Artificial Intelligence and Statistics*. Vol. 238, pp. 2872–2880.

Thompson, R., Qian, Y., and Vasnev, A. L. (2024). ‘Flexible global forecast combinations’. *Omega* 126, p. 103073.

Thompson, R. and Vahid, F. (2024). ‘Group selection and shrinkage: Structured sparsity for semiparametric additive models’. *Journal of Computational and Graphical Statistics*, In press.

Thompson, R., Dezfouli, A., and Kohn, R. (2023). ‘The contextual lasso: Sparse linear models via deep neural networks’. *Advances in Neural Information Processing Systems*. Vol. 36, pp. 19940–19961.

Thompson, R., Forbes, C. S., MacEachern, S. N., and Peruggia, M. (2023). ‘Familial inference: Tests for hypotheses on a family of centres’. *Biometrika*, In press.

Thompson, R. (2022). ‘Robust subset selection’. *Computational Statistics and Data Analysis* 169, p. 107415.

Matsypura, D., Thompson, R., and Vasnev, A. L. (2018). ‘Optimal selection of expert forecasts with integer programming’. *Omega* 78, pp. 165–175.

Preprints

Thompson, R., Bonilla, E. V., and Kohn, R. (2024). ‘ProDAG: Projection-induced variational inference for directed acyclic graphs’. arXiv: [2405.15167](https://arxiv.org/abs/2405.15167).

Presentations

‘Contextual directed acyclic graphs’. Contributed poster, 27th International Conference on Artificial Intelligence and Statistics	May 2024
‘The contextual lasso: Sparse linear models via deep neural networks’. Contributed poster, 37th Conference on Neural Information Processing Systems	Dec 2023
‘Contextual directed acyclic graphs’. Seminar talk, School of Mathematics and Statistics, University of New South Wales	Nov 2023
‘Global combinations of expert forecasts’. Invited talk, 6th International Conference on Econometrics and Statistics	Aug 2023
‘Reimagining time-honoured statistical models via deep learning’. Invited talk, CSIRO’s Machine Learning and Artificial Intelligence Reimagining Science Conference 2023	Jun 2023
‘Sparse statistical learning with structure: Advances in computation and theory’. Invited talk, 36th PhD Conference in Economics and Business	Nov 2022
‘Beyond the black box: Expressive and interpretable modelling’. Invited talk, CSIRO’s Collaborative Intelligence Meet and Mingle 2022	Oct 2022
‘Familial inference’. Contributed talk, 24th International Conference on Computational Statistics	Aug 2022
‘Robust subset selection’. Invited talk, 15th International Conference on Computational and Financial Econometrics	Dec 2021
‘Group selection and shrinkage with application to sparse semiparametric modeling’. Contributed talk, Joint Statistical Meetings 2021	Aug 2021
‘Robust subset selection’. Contributed talk, Australian and New Zealand Statistical Conference 2021	Jul 2021

Teaching

Monash University:

Applied Forecasting, Teaching Assistant	Sem 1 2020, Sem 1 2021, Sem 2 2022
Principles of Econometrics, Teaching Assistant	Sem 2 2021
Statistical Thinking, Teaching Assistant	Sem 2 2019, Sem 2 2020
Business Forecasting, Teaching Assistant	Sem 1 2019

University of Sydney:

Quantitative Business Analysis, Teaching Assistant	Sem 1 2016, Sem 2 2016
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Non-academic appointments

Visiting Scientist, CSIRO's Data61	Jun 2022–pres.
Senior Consultant, Actuarial and Financial Risk, KPMG Australia	Oct 2018–Feb 2019
Consultant, Actuarial and Financial Risk, KPMG Australia	Feb 2017–Sep 2018

Awards and prizes

Monash Business School Purple Unit (Teaching) Award	2020, 2021, 2022
Monash Business School Student Excellence Award	2020
Australian Government Research Training Program Scholarship	2018
Monash Business School Dean's Excellence Award	2018
University of Sydney Academic Merit Prize	2017

Academic service

Reviewer for Omega
Thesis examiner for University of Sydney
Organiser for UNSW Data Science Hub Year 10 Work Experience Week 2022, 2023

Professional affiliations

American Statistical Association, Member
Institute of Mathematical Statistics, Member
International Society for Bayesian Analysis, Member
Statistical Society of Australia, Member