

Ryan Thompson

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Positions

Research Associate, School of Mathematics and Statistics University of New South Wales	Jun 2022–pres. Sydney, Australia
Visiting Scientist, Analytics and Decision Sciences CSIRO’s Data61	Jun 2022–pres. Sydney, Australia
Senior Consultant, Actuarial and Financial Risk KPMG Australia	Oct 2018–Feb 2019 Sydney, Australia
Consultant, Actuarial and Financial Risk KPMG Australia	Feb 2017–Sep 2018 Sydney, Australia

Education

Doctor of Philosophy, Mathematics and Statistics Monash University	Feb 2019–Sep 2022 Melbourne, Australia
Bachelor of Commerce (Honours), Business Analytics University of Sydney	Mar 2016–Nov 2016 Sydney, Australia
Bachelor of Commerce, Econometrics and Finance University of Sydney	Mar 2013–Nov 2015 Sydney, Australia

Research

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*, In press.
- 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

Tutor at Monash University for Applied Forecasting ($\times 3$), Business Forecasting ($\times 1$), Principles of Econometrics ($\times 1$), Statistical Thinking ($\times 2$)	2019-2022
Tutor at University of Sydney for Quantitative Business Analysis ($\times 2$)	2016–2016

Honours

Monash Business School Student Excellence Award	Apr 2020
Australian Government Research Training Program Scholarship	Dec 2018
Monash Business School Dean's Excellence Award	Dec 2018
University of Sydney Academic Merit Prize	May 2017

Service

Reviewer for Omega

Thesis examiner for University of Sydney

Organiser for UNSW Data Science Hub Year 10 Work Experience Week 2022, 2023

Affiliations

American Statistical Association, Member

Institute of Mathematical Statistics, Member

International Society for Bayesian Analysis, Member

Statistical Society of Australia, Member