Manikya Alister

PHD CANDIDATE · COMPUTATIONAL COGNITIVE SCIENCE

University of Melbourne, 700 Swanston Street, Carlton, VIC 3056
✉ alisterm@student.unimelb.edu.au | ⌂ manikyaalister.github.io | Australia & USA Citizenship

Education

University of Melbourne *Melbourne, Australia*
PHD COMPUTATIONAL COGNITIVE SCIENCE *Jan 2022 - Sep 2025 (expected)*

University of California, Irvine *Irvine, California*
SUMMER SCHOOL FOR THE COMPUTATIONAL MODELLING OF LANGUAGE *August 2022*

University of Queensland *Brisbane, Australia*
BACHELOR OF PSYCHOLOGICAL SCIENCE (WITH HONOURS* CLASS 1) *2017 - 2020*

*Honours in Australia is a 1 year postgraduate research degree, similar to a European masters.
- Graduated rank #1 in my cohort (out of ≈ 250 students).
- Best honours thesis in cohort.

Awards, Fellowships, & Grants (USD$149,464 Total)

2024	**Career Development Award**, Melbourne School of Psychological Sciences	*$2,724*
2023	**Cognitive Science Society Travel Award**, Cognitive Science Society	*$1,200*
2022	**Summer School Travel Scholarship**, University of California, Irvine	*$500*
2022-2025	**Research Training Program Scholarship**, University of Melbourne/Australian Government	*$140,000*
2018,2019	**Summer Research Scholarship**, University of Queensland	*$4,700*
2020	**University Medal**, University of Queensland (Top ∼2% of university graduates)	
2020	**APS Prize**, Australian Psychological Society (Rank #1 in cohort)	
2020	**McElwain Prize**, University of Queensland (Best Honours thesis in Psychology)	*$340*

Research & Industry Experience

University of Adelaide

RESEARCH ASSOCIATE (SOFTWARE ENGINEERING & DATA SCIENCE) *May - September 2023*
- Built a web-based software prototype that uses generative AI and other natural language processing techniques to analyse how narratives emerge and spread on social media.
- Based on the prototype, Australian Defense Science & Technology Group recently invested over $3 million into further development.

Freelance Data Scientist

EXAMPLE PROJECTS: *August 2022 - Present*
- Good Data Institute:
  - Automated their on-boarding processes for new members.
  - Designed and deployed a web-based dashboard using R Shiny and Github Actions for visualizing various aspects of the organization including diversity, equity, and project impact.
  - See this article I wrote outlining the full project.
- Queensland Mind Project:
  - Consulted on data analysis and implemented reproducible Bayesian and Frequentest statistical models using R.

University of Queensland *Brisbane, Australia*

RESEARCH ASSISTANT (COMPUTATIONAL COGNITIVE PSYCHOLOGY) *Jan 2021 - Dec 2021*
- Simulated computational models of decision-making, fitted them to experimental data, and estimated their parameters using Bayesian hierarchical and individual-level techniques.
- Wrote up findings for publications.

Publications

conference paper with published journal extension; [+] mentored student

Published (Peer Reviewed)

1. **Alister, M.**, Ransom, K.J., Connor-Desai, S., Soh, E.V.[+] Hayes, B., Perfors, A. (2025, Conditionally Accepted). How convincing is a crowd? Quantifying the persuasiveness of a consensus across individuals and claim types. *Psychological Science*.

2. **Alister, M.**, Perfors, A. (accepted) Stochastic search algorithms can tell us who to trust (and why). *Proceedings of the Annual Meeting of the Cognitive Science Society* 46 (46).

3. **Alister, M.**, Ransom, K.J., Lua, A., Perfors, A. (accepted). The impact of engagement and partisan influence campaigns in an isolated social media environment. *Proceedings of the Annual Meeting of the Cognitive Science Society* 46 (46).

4. *__Alister, M.__, Ransom, K.J., Connor-Desai, S., Soh[+] , E.V. Hayes, B., Perfors, A (2024). Sensitivity to Online Consensus Effects Within Individuals and Claim Types. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 46(46). Link.

5. **Alister, M.**, Herbert, S., Sewell, DK., Neal, A. Ballard, TJ. (2024). The Impact of Cognitive Resource Constraints on Goal Prioritization. *Cognitive Psychology*, 148. Link.

6. **Alister, M.**, Ransom, K. J., & Perfors, A. (2023). Inferring the truth from deception: What can people learn from helpful and unhelpful information providers? *Proceedings of the Annual Meeting of the Cognitive Science Society*, 45(45). Link.

7. **Alister, M.**, McKay, KT., Sewell, DK., Evans, NJ., (2023). Uncovering the Cognitive Mechanisms Underlying the Gaze Cueing Effect. *Quarterly Journal of Experimental Psychology*, 803-827. Link.

8. McKay, K. T., Grainger, S. A., **Alister, M.**, & Henry, J. D. (2023). Enhancing ecological validity of gaze-cueing stimuli is associated with increased gaze following for older but not younger adults. *Psychology and Aging,* 562–572, 38(6). Link.

9. Grainger, S. A., Henry, J. D., **Alister, M.**, Bourdaniotis, X. E., Mead, J., Bailey, T. G., Coombes, J. S., & Vear, N. (2023). Cardiorespiratory fitness and muscular strength do not predict social cognitive capacity in older age. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, 1824–1833. Link.

10. **Alister, M.**, Ransom, KJ., Perfors, A. (2022). Source independence affects argument persuasiveness when the relevance is clear. *Proceedings of the Annual Meeting of the Cognitive Science Society 44 (44)*. Link.

11. McKay, KT., Talipski, LA., Grainger, SA, **Alister, M.**, Henry, JD. (2022). How Does Ageing Affect Social Attention? A Test of Competing Theories using Multi-Level Meta-Analysis. *The Journals of Gerontology: Series B*, 1454-1463. Link

12. **Alister, M.,** Vickers-Jones, R., Sewell, DK., Ballard, TJ., (2021). How do we Choose Our Giants? Perceptions of Replicability in Psychological Science. *Advancements in Methods and Practices in Psychological Science*, 25152459211018199. Link.

Publications Under Review

1. **Alister, M.**, Ransom, K. J., & Perfors, A. When a helpful bias is unhelpful: Limitations in reasoning about random and deliberately misleading evidence. Preprint.

2. **Alister, M.**, Evans, Nathan J. ParAcT-DDM: A diffusion-based framework for modelling systematic, time-varying cognitive processes. In revision at *Psychological Review*. Preprint.

Non-academic publications and media featuring my research

1. **Alister, M.**, How does an organisation of data professionals leverage its own data? *Good Data Institute.* Link.

2. Wilcox, C. The life academic: Getting your priorities straight, with a little help from science, *Science Advisor*. Link.

Presentations

* presenting author

Invited Talks

Causal Cognition Laboratory, **University College London**. *How do people use social consensus to infer ground truth?* July 2024.

Computational Modelling in Psychology Group, **Ludwig Maximilian University**, Munich. *How does social inference facilitate efficient cognition?* July 2024.

Computational Cognitive Science Lab, **Massachusetts Institute of Technology (MIT)**, Cambridge MA. *How does social inference facilitate efficient cognition?* March 2024.

Cognition Colloquium, **University of California, Berkeley** (Remote). *What can we learn from helpful and unhelpful information providers?* February 2024.

Sydney Thinking and Reasoning Laboratory, **University of New South Wales**, Sydney. *What is the role of social inference in cognition?.* August 2023.

Conference Presentations

Invited Symposia

Alister, M.*, Ransom, K.J., Connor-Desai, S., Soh, E.V.[+] Hayes, B., Perfors, A. (2024, July). Topic-level and individual-level assumptions in consensus reasoning. In symposium "Reasoning about the opinions of others", Australasian Experimental Psychology Conference.

Alister, M.*, Ransom, K. J., Perfors, A. (2024, June) *What can people infer from helpful and unhelpful information providers? In symposium "Information sampling approaches to reasoning and decision making".* International Conference of Thinking, Milan, Italy. Talk.

International Conferences

1. **Alister, M.***, Ransom, K.J., Connor-Desai, S., Soh, E.V.[+] Hayes, B., Perfors, A. (2024, July). Quantifying the persuasiveness of a consensus across individuals and claim types. Annual Meeting of the Cognitive Science Society, Rotterdam, NL. Talk.

2. **Alister, M.***, Ransom, K. J., Perfors, A. (2024, July) *Practising Deception Does Not Make You Better at Learning from Deceptive Samples*. Annual Meeting of the Cognitive Science Society, Rotterdam, NL. Poster.

3. **Alister, M.***, Evans, N. (2024, July) *A diffusion based framework for modelling time-varying changes in cognitive processes*. International Mathematical Psychology Conference, Tilburg, NL. Poster.

4. **Alister, M.**, Ransom, K.J., Connor-Desai, S., Soh, E.V. Hayes, B., Perfors, A. (2024, June). Quantifying the persuasiveness of a consensus across individuals and claim types. International Conference of Thinking, Milan, Italy. Talk.

5. **Alister, M.***, Evans, N. (2023, July) *A model to describe how cognitive processes change across time*. Annual Meeting of the Cognitive Science Society, Sydney, Australia. Poster.

6. **Alister, M.***, Ransom, K. J., Perfors, A. (2023, July) *Inferring the truth from deception: What can people infer from helpful and unhelpful information providers?* Annual Meeting of the Cognitive Science Society, Sydney, Australia. Talk.

7. **Alister, M.***, Ransom, K. J., Perfors, A. (2022, July) *Source Dependence Influence Argument Persuasiveness When Relevance is Clear*. Annual Meeting of the Cognitive Science Society, Toronto, Canada. Poster.

8. **Alister, M.***, Ransom, K. J., Perfors, A. (2022, July) *Source Dependence Influence Argument Persuasiveness When Relevance is Clear*. Mathematical Psychology Society Conference/International Conference in Computational Modelling, Toronto, Canada. Talk.

9. **Alister, M.***, Mckay, K.T, R., Sewell, D. K., Evans, N.J. (2021, November), *Uncovering the Cognitive Mechanisms Underlying the Gaze Cueing Effect*, Meeting of the Psychonomic Society (Remote). Poster.

10. **Alister, M.***, Vickers-Jones, R., Sewell, D. K., Ballard, T.* (2020, November), *How do we choose our giants? Perceptions of replicability in psychological science*, 61st Meeting of the Psychonomic Society (Remote). Talk.

Domestic Conferences

1. **Alister, M.***, Perfors, A. (2025, February) *Stochastic search algorithms can (and should?) tell us who to listen to*. Australasian Mathematical Psychology Conference, Sydney. Talk.

2. **Alister, M.***, Evans, N. (2024, February) *A diffusion based framework for modelling time-varying changes in cognitive processes*. Australasian Mathematical Psychology Conference, Perth. Talk.

3. **Alister, M.***, Ransom, K. J. (2023, September) *Rhetorical Mapping and Narrative Detection Online*. DSTG Mis/Disinformation Conference, Melbourne. Talk.

4. **Alister, M.***, Ransom, K. J., Perfors, A. (2023, February) *Inferring the truth from deception: What can people infer from helpful and unhelpful information providers?*. Australasian Mathematical Psychology Conference, Melbourne. Talk.

5. **Alister, M.***, McKay, K. T., Sewell, D. K., Evans, N. J. (2022, February), *A computational modelling investigation of the mechanisms subserving the gaze-cueing effect*, Australasian Mathematical Psychology Conference (Remote). Talk.

6. **Alister, M.***, Vickers-Jones, R., Sewell, D. K., Ballard, T. (2021, February), *Perceptions of replicability in psychological science*, Australasian Mathematical Psychology Conference (Remote). (recording)

7. **Alister, S.***, Herbert, S., Ballard, T. (2021, February), *Pursuing Multiple Goals under Time Pressure: A Computational Investigation*, Australasian Mathematical Psychology Conference (Remote). Talk (recording)

8. **Alister, M.***, Vickers-Jones, R., Sewell, D. K., Ballard, T. (2020, November), *Perceptions of replicability in psychological science*, UQ Centre for Perception & Cognitive Neuroscience Mini-Conference, Brisbane. Talk.

WORKSHOPS AND TUTORIALS

How to code an MCMC sampler from scratch. Weekly Bayesian Analysis Workshop for Graduate Students, University of Melbourne School of Psychological Sciences

Open Source Software

Alister, M. ModelProb: an R package to convert raw model comparison information criteria into relative probabilities. github.com/ManikyaAlister/modelProb .

Teaching Experience

Academic Tutor = Teaching Assistant in Australia

University of Melbourne *Melbourne, Australia*

ACADEMIC TUTOR
- **Sem 1, 2022, 2023, 2024:** Research Methods for Human Inquiry (R and Statistics)

University of Queensland *Brisbane, Australia*

LEAD ACADEMIC TUTOR
- **Sem 2, 2021:** Introduction to Social, Developmental, and Clinical Psychology

Brisbane, Australia

ACADEMIC TUTOR
- **Sem 2, 2021:** Judgement and Decision Making
- **Sem 1, 2021:** Introduction to Social, Developmental, and Clinical Psychology

Supervision

* sole/primary supervisor; + secondary supervisor

2025	***Tony Li**, Honours Student, University of Melbourne
2025-2026	***Anthony Lua**, Summer Research Intern, University of Melbourne
2024	+ **Betül Ayça Coşar**, Masters Student, Ludwig Maximilian University, Munich
2024	+**Spike Huang**, Honours Student, University of Melbourne
2024	+**Meila Wong**, Honours Student, University of Melbourne
2023-2024	***Ee Von Soh**, Summer Research Intern, University of Melbourne

Service & Professional Memberships

OUTREACH

2022-now	**Good Data Institute**, Initial short-term paid position then continued as a volunteer
2021	**Australasian Mathematical Psychology Conference Planning Committee**, Committee Member

PEER REVIEW

Cognition, *Collabra Psychology*, *Computational Brain and Behaviour*, *Cognitive Science Society*

PROFESSIONAL MEMBERSHIPS

Cognitive Science Society, Australasian Mathematical Psychology Society, International Mathematical Psychology Society

Skills

Data Analysis Specializing in Bayesian statistical & computational modelling, machine learning, and natural language processing.

Programming R, Python, JavaScript, CSS, HTML, R Shiny, Stan, Bash

Software and Data Engineering Experience implementing web-based applications and online data systems.

Spoken Languages English (native), Spanish (conversational)

Research Design With experience designing and implementing novel experiments, replications, and surveys across multiple platforms and software.

Other Programs/Software Github, Google App Engine, Firestore, Cloud Computing, LaTeX, SPSS, Jamovi, Qualtrics, Microsoft Office