

# Manikya Alister

PHD CANDIDATE · COMPUTATIONAL COGNITIVE SCIENCE

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## Education

### University of Melbourne

PHD COMPUTATIONAL COGNITIVE SCIENCE

Melbourne, Australia  
Jan 2022 - April 2025 (expected)

### University of California, Irvine

SUMMER SCHOOL FOR THE COMPUTATIONAL MODELLING OF LANGUAGE

Irvine, California  
August 2022

### University of Queensland

BACHELOR OF PSYCHOLOGICAL SCIENCE (WITH HONOURS\* CLASS 1)

Brisbane, Australia  
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  $\approx 250$  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 $\sim 2\%$ 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/Defense Science

RESEARCH ASSOCIATE (SOFTWARE ENGINEERING & DATA SCIENCE)

Adelaide, Australia  
May - September 2023

- Built a web-based software prototype leveraging state-of-the-art large language models and natural language processing tools to track and analyze how narratives emerge on social media and influence the information environment.
- So successful that 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 Frequentist statistical models using R.

### University of Queensland

RESEARCH ASSISTANT (COMPUTATIONAL COGNITIVE PSYCHOLOGY)

Brisbane, Australia  
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

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\*conference paper with published journal extension; + mentored student

## PUBLISHED (PEER REVIEWED)

1. **Alister, M.**, Ransom, K.J., Connor-Desai, S., Soh, E.V.<sup>+</sup> 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.**, Ransom, K.J., Connor-Desai, S., Soh<sup>+</sup>, 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.
3. **Alister, M.**, Herbert, S., Sewell, DK., Neal, A. Ballard, TJ. (2024). The Impact of Cognitive Resource Constraints on Goal Prioritization. *Cognitive Psychology*, 148. Link.
4. **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.
5. **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.
6. 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.
7. 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.
8. **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.
9. 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
10. **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.**, Evans, Nathan J. ParAcT-DDM: A diffusion-based framework for modelling systematic, time-varying cognitive processes. In revision at *Psychological Review*. Preprint.
2. **Alister, M.**, Perfors, A. Stochastic search algorithms can tell us who to trust (and why).
3. **Alister, M.**, Ransom, K.J., Lua, A., Perfors, A. The impact of engagement and partisan influence campaigns in an isolated social media environment.

## 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

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\* *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.

## INTERNATIONAL CONFERENCES

**Alister, M.\***, Ransom, K.J., Connor-Desai, S., Soh, E.V.<sup>†</sup> 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.

**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.

**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.

**Alister, M.\***, Ransom, K. J., Perfors, A. (2024, June) *What can people infer from helpful and unhelpful information providers? (Invited Symposium)*. International Conference of Thinking, Milan, Italy. Talk.

**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.

**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.

**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.

**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.

**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.

**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.

**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

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

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

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

**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.

- 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.
- Alister, M.\***, Vickers-Jones, R., Sewell, D. K., Ballard, T. (2021, February), *Perceptions of replicability in psychological science*, Australasian Mathematical Psychology Conference (Remote). (recording)
- Alister, S.\***, Herbert, S., Ballard, T. (2021, February), *Pursuing Multiple Goals under Time Pressure: A Computational Investigation*, Australasian Mathematical Psychology Conference (Remote). Talk (recording)
- 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](https://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

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**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