Bonan Zhao

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ACADEMIC APPOINTMENTS

Postdoc, Princeton University, US   2023–now

    Advisors: Tom Griffiths (Computer Science & Psychology), Natalia Vélez (Psychology)

EDUCATION

PhD, Psychology, University of Edinburgh, UK   2019–2023

    Advisors: Neil R. Bramley (Psychology), Christopher G. Lucas (Informatics)

    Thesis: A computational framework of human causal generalization

MSc, Logic (Cum Laude), University of Amsterdam, The Netherlands (NL)   2015–2017

BA, Philosophy, Tsinghua University, China   2011–2015

EXPERIENCE

Data Scientist, Screen 6 (Amsterdam startup), NL   2017–2019

PUBLICATIONS

Peer-reviewed journal articles

1. N. R. Bramley, **B. Zhao**, T. Quillien, and C. G. Lucas. Local search and the evolution of world models. *Topics in Cognitive Science*, accepted

2. **B. Zhao**, C. G. Lucas, and N. R. Bramley. A model of conceptual bootstrapping in human cognition. *Nature Human Behaviour*, in press

3. **B. Zhao**, C. G. Lucas, and N. R. Bramley. How do people generalize causal relations over objects? A non-parametric Bayesian account. *Computational Brain & Behavior*, 5:22–44, 2022

4. V. Capraro, J. Sippel, **B. Zhao**, L. Hornischer, M. Savary, Z. Terzopoulou, P. Faucher, and S. F. Griffioen. People making deontological judgments in the trapdoor dilemma are perceived to be more prosocial in economic games than they actually are. *PLOS One*, 2018

Peer-reviewed conference proceedings

5. T. Gong, **B. Zhao**, R. D. McIntosh, and C. G. Lucas. A rational model of spatial neglect. In *Proceedings of the 45th Annual Meeting of the Cognitive Science Society*, 2023

6. **B. Zhao**, N. R. Bramley, and C. G. Lucas. Powering up causal generalization: A model of human conceptual bootstrapping with adaptor grammars. In *Proceedings of the 44th Annual Meeting of the Cognitive Science Society*. Cognitive Science Society, 2022

7. Z. Xia*, **B. Zhao***, T Quillien, and C. G. Lucas. Dissecting causal asymmetries in inductive generalization. In *Proceedings of the 44th Annual Meeting of the Cognitive Science Society*. Cognitive Science Society, 2022

8. N. Marchant, **B. Zhao**, N. R. Bramley, D. Morales, and S. E. Chaigneau. Categorizing perceived causal events. In *Proceedings of the 44th Annual Meeting of the Cognitive Science Society*. Cognitive Science Society, 2022

9. **B. Zhao**, C. G. Lucas, and N. R. Bramley. Building object-based causal programs for human-like generalization. In *Causal Inference & Machine Learning Workshop*. NeurIPS, 2021

10. **B. Zhao** and N. R. Bramley. Order effects in one-shot causal generalization. In *Proceedings of the 42nd Annual Meeting of the Cognitive Science Society*. Cognitive Science Society, 2020

11. **B. Zhao**, I. van de Pol, M. Raijmakers, and J. Szymanik. Predicting cognitive difficulty of the deductive mastermind game with dynamic epistemic logic models. In *Proceedings of the 40th Annual Meeting of the Cognitive Science Society*. Cognitive Science Society, 2018

12. Z. Terzopoulou, A. Solaki, and **B. Zhao**. Logic of closeness revision: Challenging relations in social networks. In *Proceedings of the ESSLLI 2016 Student Session*. 28th European Summer School in Logic, Language & Information, 2016

Organized workshop

13. S. Valentin, **B. Zhao**, C. Jiang, C. G. Lucas, and N. R. Bramley. Symbolic and sub-symbolic systems in people and machines. Workshop at the 43rd Annual Meeting of the Cognitive Science Society, 2021

Book

14. P. van Emde Boas, G. van Emde Boas, K. Xie, and **B. Zhao**. *Analyzing the Logic of Sun Tzu in "The Art of War", Using Mind Maps*. Springer (Part of the book series *Logic in Asia: Studia Logica Library (LIAA)*), 2022

INVITED TALKS

NYUConcats, New York University, New York City, US	Oct 2023
Max Planck Institute for Biological Cybernetics, Tübingen, Germany	Oct 2022
Human Cognitive Neuroscience seminar, University of Edinburgh, Edinburgh, UK	Oct 2022
Computational Cognitive Science Lab, Princeton University, remote	Sep 2022
Computation & Cognition Lab, Stanford University, remote	Sep 2022
Computational Cognitive Science Lab, University of Melbourne, remote	May 2022
Logic and Interactive Rationality, University of Amsterdam, remote	Mar 2022
London Judgment and Decision Making Seminar, London, UK	Mar 2022
Causality in Cognition Lab, Stanford University, remote	Feb 2022
Computational Principles of Intelligence Lab, MPI Tübingen, remote	Jul 2021
DTU Compute, Technical University of Denmark, Copenhagen, Denmark	Oct 2017
Donders Institute for Brain, Cognition and Behaviour, Nijmegen, NL	May 2017
Cool Logic, Institute for Logic, Language and Computation, Amsterdam, NL	Apr 2016

CONFERENCE & WORKSHOP PRESENTATIONS

Conference on Cognitive Computational Neuroscience (CCN), Oxford, UK	Aug 2023
Edinburgh Computational CogSci Workshop, University of Edinburgh	Jul 2022
Reasoning Workshop, Edinburgh Laboratory for Integrated Intelligence	Jun 2022
Causal Inference & Machine Learning: Why now?, NeurIPS, remote	Dec 2021
Symbolic and sub-symbolic systems in people and machines, CogSci 2021, remote	Jul 2021

International Conference of Thinking (ICT 2020), remote   Jun 2021
Annual Meeting of the Cognitive Science Society (CogSci), remote   Aug 2020
Annual Meeting of the Cognitive Science Society (CogSci), Madison, US   Jul 2018
North American Summer School on Logic, Language, and Information, Rutgers, US   Jul 2016
Logic and the Foundations of Game and Decision Theory, Maastricht, NL   Jul 2016
LABEX CIMI Pluridisciplinary Workshop on Game Theory, Toulouse, France   Nov 2015

Awards & Scholarships

Chinese Students Award, Great Britain–China Educational Trust   2022
Good Research Practice Awards (Open Research Award), Edinburgh Research Office   2022
Research Support Grants, Department of Psychology, University of Edinburgh   2020–2022
Postgraduate Research Award, University of Edinburgh   2019–2022
Springer Best Paper Award, European Summer School in Logic, Language and Information   2016
Amsterdam Excellence Scholarship, University of Amsterdam   2015–2017
Dean's Award, Tsinghua University   2014

Outreach

Open Research Facilitator, School of PPLS, University of Edinburgh, UK   2021–2022

Teaching

Training Fellow, Centre for Data, Culture & Society, University of Edinburgh, UK   2022–2023

- Trainings delivered: Data Carpentry, Introduction to Descriptive Statistics, Data Visualization with R, Version Control with git and GitHub, CV formatting with LaTeX and Overleaf
- Open sessions: Open Research Practices

Tutor, University of Edinburgh, UK   2020–2023

- Programming labs: Introduction to Cognitive Science (Python), Univariate Statistics and Methodology using R, Data Analysis for Psychology in R.
- Tutorials: Causal Cognition, Logic 1.

Mentor, HackYourFuture (free coding school for refugees), NL   2018–2019

- Lead lecturer for course modules Git, CLI, and Database
- TA for course modules JavaScript and React.js

Service

Reviewer

- Conferences: Annual Meeting of the Cognitive Science Society (CogSci) 2020–2023, Conference on Cognitive Computational Neuroscience (CCN) 2023
- Journals: Artificial Intelligence, Journal of Cognition, Journal of Experimental Psychology: Applied, Scientific Reports, Open Mind

Organizer, EdinCoCoSci lab meetings, University of Edinburgh, UK   2019–2022
Organizer, Logic Tea seminar series, University of Amsterdam, NL   2016–2017

Mentoring

Zeyu Xia   MSc thesis project, School of Informatics, University of Edinburgh