# Bonan Zhao

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## EDUCATION

**PhD, Psychology**, *University of Edinburgh*, Edinburgh, Scotland, UK          Expected 2023
    Project topic: A computational account of human causal generalization
    Advisors: Neil R. Bramley (Psychology), Christopher G. Lucas (Informatics)
**MSc, Logic (Cum Laude)**, *University of Amsterdam*, Amsterdam, The Netherlands          Aug 2017
**BA, Philosophy**, *Tsinghua University*, Beijing, China          July 2015

## EXPERIENCE

**Open Research Facilitator**, *University of Edinburgh*, Edinburgh          2021-2022
**Data Scientist**, *Screen 6* (Amsterdam startup), Amsterdam          2017-2019

## PUBLICATIONS

Working papers

1. **B. Zhao**, C. G. Lucas, and N. R. Bramley. Bootstrap learning of complex causal concepts, in prep

Peer-reviewed articles

2. **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

3. 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

4. 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

5. **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

6. **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

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

8. **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

9. **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

10. 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

11. 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

Posters

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

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

14. **B. Zhao** and N. R. Bramley. Order effects in one-shot causal generalization. Poster presented at the 42nd Annual Meeting of the Cognitive Science Society, 2020

15. **B. Zhao**, I. van de Pol, M. Raijmakers, and J. Szymanik. Predicting cognitive difficulty of the deductive mastermind game with dynamic epistemic logic models. Poster presented at the 40th Annual Meeting of the Cognitive Science Society, Madison, WI, USA, 2018

16. Z. Terzopoulou, A. Solaki, and **B. Zhao**. Logic of closeness revision and opinion-closeness revision. Poster presented at the 12th Conference on Logic and the Foundations of Game and Decision Theory (LOFT), Maastricht, The Netherlands, 2016

Organized workshop

17. 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

## INVITED TALKS

| | |
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| **Computational Cognitive Science Lab**, University of Melbourne, virtual | May 2022 |
| **Logic and Interactive Rationality**, University of Amsterdam, virtual | Mar 2022 |
| **London Judgment and Decision Making Seminar**, London, UK | Mar 2022 |
| **Causality in Cognition Lab**, Stanford University, virtual | Feb 2022 |
| **Computational Principles of Intelligence Lab**, MPI Tübingen, virtual | July 2021 |
| **DTU Compute**, Technical University of Denmark, Copenhagen, Denmark | Oct 2017 |
| **Donders Institute for Brain, Cognition and Behaviour**, Nijmegen, The Netherlands | May 2017 |
| **Cool Logic**, Institute for Logic, Language and Computation, Amsterdam, The Netherlands | Apr 2016 |

## CONFERENCE & WORKSHOP PRESENTATIONS

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| **Edinburgh Computational Cog Sci Workshop**, University of Edinburgh | July 2022 |
| **Reasoning Workshop**, Edinburgh Laboratory for Integrated Artificial Intelligence | June 2022 |
| **Causal Inference & Machine Learning: Why now?**, NeurIPS, virtual | Dec 2021 |
| **Symbolic and sub-symbolic systems in people and machines**, CogSci 2021, virtual | July 2021 |
| **International Conference of Thinking (ICT 2020)**, virtual | June 2021 |
| **Annual Meeting of the Cognitive Science Society (CogSci 2020)**, virtual | Aug 2020 |

**Annual Meeting of the Cognitive Science Society (CogSci 2018)**, Madison, US July 2018

**North American Summer School on Logic, Language, and Information**, Rutgers, US July 2016

**Logic and the Foundations of Game and Decision Theory**, Maastricht, The Netherlands July 2016

**LABEX CIMI Pluridisciplinary Workshop on Game Theory**, Toulouse, France Nov 2015

## AWARDS & SCHOLARSHIPS

**Chinese Students Award**, *Great Britain China Educational Trust* 2022

**Research Support Grants**, *Department of Psychology, University of Edinburgh* 2021,2022
  Research travel and payment of participants

**Postgraduate Research Award**, *University of Edinburgh* 2019-2022
  International rate tuition fee and monthly stipend for three years

**Springer Best Paper Award**, *European Summer School in Logic, Language and Information* 2016

**Amsterdam Excellence Scholarship**, *University of Amsterdam* 2015-2017

**National Merit Scholarship**, *Ministry of Education*, PRC 2015

**Dean's Award**, *Tsinghua University* 2014

## TEACHING

**Tutor**, *University of Edinburgh*, Edinburgh 2020-2023

- Causal Cognition
- Logic 1
- Univariate Statistics and Methodology using R
- Data Analysis for Psychology in R

**Mentor**, *HackYourFuture*, free refugee coding school (Amsterdam-based initiative) 2018-2019

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

## SERVICE

**Reviewer**

- CogSci 2022, 2021, 2020
- Journal of Experimental Psychology: Applied

**Organizer**, EdinCoCoSci lab meetings, *University of Edinburgh* 2019-2022

**Organizer**, Logic Tea seminar series, *Institute for Logic, Language and Computation* 2016-2017

## MENTORING

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

## SKILLS

**Computer skills** Python, R, Flask, Hugo, Jekyll, JavaScript/HTML/CSS, SQL, LaTeX, Git, CLI

**Languages** Mandarin Chinese (native), English (fluent), Japanese, Dutch

REFERENCES

**Dr. Neil R. Bramley**

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**Dr. Christopher G. Lucas**

Reader (Associate Professor equiv.)

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**Prof. Dr. Sonja Smets**

Full professor of Logic and Epistemology

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