Boris Babic

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last update: April 2023

Academic Appointments

Assistant Professor, **University of Toronto, St. George**   *2021-*
Department of Statistical Sciences
Faculty Fellow, Schwartz Reisman Institute for Technology and Society

Assistant Professor, **INSEAD**   *2019-2021*
Department of Decision Sciences (France and Singapore)

Postdoctoral Scholar, **California Institute of Technology** (**Caltech**)   *2017-2019*

Education

PhD in Philosophy, University of Michigan, Ann Arbor   *2013-2017*

Dissertation Title: Foundations of Epistemic Risk
Committee:
James Joyce (Chair), Peter Railton,
Brian Weatherson, Rich Gonzalez (Statistics/ Psychology)

MS in Statistics, University of Michigan, Ann Arbor   *2015-2017*

JD, *cum laude*, Harvard Law School   *2007-2010*

BA, *summa cum laude*, York University   *2003-2007*

Areas of Specialization and Competence

AOS: Bayesian Statistics; Ethics, Law and Policy of AI and Machine Learning
AOC: Decison & Game Theory, Legal Theory

Publications

Academic Journal Articles

1. The Algorithmic Explainability Bait and Switch, **Minnesota Law Review**   Exp. 2023
   with I. Glenn Cohen

2. Moral Encroachment Under Moral Uncertainty, **Philosophers' Imprint**   Exp. 2023
   with Zoë Johnson King

3. Comment on Ariel Dora Stern, "Regulation of Medical AI", Exp 2023
The Economics of Artificial Intelligence
edited by Ajay Agrawal, Joshua Gans, and Avi Goldfarb

4. Beware Explanations from AI in Health Care, **Science** 2021
with I. Glenn Cohen, Theodoros Evgeniou, and Sara Gerke

5. Direct Advertising of Medical Machine Learning, **Nature Machine Intelligence** 2021
with I. Glenn Cohen, Theodoros Evgeniou, and Sara Gerke

6. Normativity, Epistemic Rationality and Noisy Statistical Evidence, 2021
British Journal for the Philosophy of Science
with Anil Gaba, Ilia Tsetlin, and Robert L. Winkler

7. Approximate Coherentism and Luck, **Philosophy of Science** 2021

8. A System View for Medical Machine Learning Policy, **Nature Digital Medicine** 2020
with I. Glenn Cohen, Theodoros Evgeniou, and Sara Gerke

9. Moral Obligation & Epistemic Risk, **Oxford Studies in Normative Ethics** 2020
with Zoë Johnson-King

10. Algorithms on Regulatory Lockdown, **Science** 2019
with I. Glenn Cohen, Theodoros Evgeniou, and Sara Gerke

11. A Theory of Epistemic Risk, **Philosophy of Science** 2019

Other Writing

12. Explaining Medical AI is Easier Said than Done, **STAT News** 2021
with Sara Gerke

13. When Machine Learning Goes off the Rails, **Harvard Business Review** 2020
with I. Glenn Cohen, Theodoros Evgeniou, and Sara Gerke

14. Can AI Decide Who Gets an Organ Transplant?, **Harvard Business Review** 2020
with I. Glenn Cohen, Theodoros Evgeniou, Sara Gerke, and Nikos Trichakis

15. Onboarding AI, **Harvard Business Review** 2020
with Daniel Chen, Theodoros Evgeniou, and Anne-Laure Fayard

In Progress

16. Algorithmic Fairness and Resentment (under review),
with Zoë Johnson King

17. Resolute and Correlated Bayesians (under review)
with Anil Gaba, Ilia Tsetlin, and Robert L. Winkler

18. Reframing the Interpretability Accuracy Tradeoff (under review)
with Zhanghan Yin

19. Bayesian Bandits and New Hypotheses (in progress)
with Ilia Tsetlin

20. The Cost of Data Bias:
A Model of the Diminishing Value of Noisy Information (in progress)
with Robin Gong

21. Noise, Thresholds and Legal Burdens of Proof
with Zoe Johnson King

22. Anchoring, Explainability and Monty Hall:
An Empirical Study of the Value of Algorithmic Transparency
with David Soberman and Pankaj Aggarwal

Presentations

"The Cost of Data Bias"

IMS International Conference on Statistics and Data Science, Lisbon (December 2023)

"Bayesian Bandits and New Hypotheses"

NYU-Rutgers Workshop on the Foundations of Probability (January 2023)

"The Case Against Explainable Medical Machine Learning"

Canadian Statistical Society, Annual Meeting (June 2021)
University of Toronto, Schwartz Reisman Institute (September 2021)
Frankfurt School of Finance and Management (June 2022)
University of Toronto, Rotman School of Management (October 2022)

"Resolute and Correlated Bayesians"

California Institute of Technology (June 2021)
University of Bristol (May 2021)
UC Irvine, Formal Epistemology Workshop (May 2022)

"Noisy Stereotypes"

UC Irvine, Formal Epistemology Workshop (April 2020)
University of Toronto (February 2020)
University of Washington (February 2020)
University of Stirling and Edinburgh, Varieties of Risk Project (November 2021)

"Algorithmic Discrimination and Epistemic Risk"

London School of Economics (February 2019)
INSEAD (February 2019)
California Institute of Technology (January 2019)
King's College London (July 2021)

"Moral Obligation and Epistemic Risk"

    Arizona Workshop in Normative Ethics (January 2019)

"A Challenge for Approximate Coherentism"

    University of Colorado, Boulder, 34th Conf. on Chance and Probability (October 2018)

"Testing for Discrimination and the Risk of Error"

    The Australian National University (July 2018)

"Dynamic Epistemic Risk"

    University of California, Irvine (February 2018)
    California Institute of Technology (January 2018)

"Generalized Entropy and Epistemic Risk"

    University of Michigan, Philosophy of Science Colloquium (February 2018)
    London School of Economics, Philosophy of Probability Conference (June 2017)
    University of Chicago, Graduate Conference (April 2016)

"Frequency Encoding Credences"

    London School of Economics, Decisions, Games and Logic Workshop (June 2015)

"Degrees of Belief, Moral Judgment, and Legal Responsibility"

    Harvard Legal Philosophy Colloquium (November 2014)

Fellowships & Awards (Selected)

Regulating the AI Lifecycle: A Multidisciplinary Perspective (Co PI, $120,000) **XSeed Grant, DOSS, ECE, Transform HF/Ted Rogers Centre for Heart Research**	*2023-2025*
Summer Research Fellowship ($5,250) **University of Toronto Excellence Award**	*2023*
From Outcome Disparity to Data Inequality, Insight Grant (Sole PI, $76,500) **Social Sciences and Humanities Research Council of Canada**	*2021-2025*
Faculty Fellowship ($25,000) **Schwartz Reisman Institute**	*2021-2025*
Faculty Fellowship ($25,000) **Connaught New Faculty Research Prize**	*2021-2025*
Reconceiving Procedural Fairness, Insight Dlpt Grant (Collaborator, $64,584) **Social Sciences and Humanities Research Council of Canada**	*2021-2025*
Institutional Grant (Sole PI, $2,500) **Social Sciences and Humanities Research Council of Canada**	*2021-2022*
Fair Machine Learning, Research Grant ($7,500) **The Desmarais Fund for Research in AI**	*2020*
Doctoral Fellowship ($60,000) **Social Sciences and Humanities Research Council of Canada**	*2015-2018*

Rackham Dissertation Fellowship ($10,200)   *2017*
University of Michigan, Ann Arbor

Rackham Research Grant ($3,000)   *2017*
University of Michigan, Ann Arbor

Mellon Recruitment Fellowship ($4,000)   *April 2013*
University of Michigan, Ann Arbor

Rhodes Scholarship Finalist   *December 2009*
Ontario

Public Interest Law Fellowship ($5,000)   *2008*
Harvard Law School

Teaching

Bayesian Statistics (BA)   *Spring 2023, Spring 2022*
University of Toronto

Philosophy of Science (PhD)   *Spring 2022*
University of Toronto

Statistics, Ethics and Law (new course) (MSc)   *Fall 2021*
University of Toronto

Ethical Issues in Big Data (new course) (BA)   *Spring 2023, Fall 2021*
University of Toronto

Bayesian Statistics (PhD)   *Fall 2020, Fall 2019*
INSEAD

Management Decision Making (MBA)   *Spring 2021, Spring 2020*
INSEAD

Data Analysis (Masters in Management)   *Fall 2020*
INSEAD

Quantitative Methods (MBA)   *Summer 2019, Fall 2019, Fall 2020*
INSEAD

Statistics, Ethics and Law (new course)   *Spring 2018*
Caltech

Probability, Evidence and Belief   *Spring 2018, Fall 2018*
Caltech

Knowledge and Reality   *Fall 2017, Spring 2019*
Caltech

Nature of Science   *Fall 2016*
University of Michigan

Knowledge and Reality   *Summer 2016*
University of Michigan

Legal Experience

Stikeman Elliott, LLP	Toronto
Litigation Attorney	*2012–2013*
Quinn, Emanuel, Urquhart & Sullivan, LLP	Los Angeles
Litigation Attorney	*2010–2012*
Kirkland & Ellis, LLP	New York
Summer Associate (offer extended)	*Summer 2009*
Petrie-Flom Center for Health Law Policy, Biotechnology & Bioethics	Cambridge, MA
Research Assistant	*2009–2010*

Professional Service

Editorial Positions

Senior Associate Editor,	*2023-*
ACM Transactions on Probabilistic Machine Learning	

TOPML is a newly established ACM journal on Bayesian machine learning, edited by Fang Liu, Theodoros Papamarkou and Wray Buntine.

Other Service

Reviewer for the following publications:
Philosophy of Science, Mind, BJPS, Theory & Decision, PPR, Ergo, Synthese, PPQ, APQ
Philsophical Studies, Nature Digital Medicine, OUP, Philosophy & Technology

7th Conference on Bayesian, Frequentist and Fiducial Inference (BFF7)	*June 2022*
Session Organizer	
ACM Conference on Fairness, Accountability and Transparency (ACM FAccT)	*June 2022*
Program Committee	
AAAI/ACM Conference on AI, Ethics and Society	*May 2021*
Program Committee	
10th Workshop in Decisions, Games and Logic	*June 2019*
Organizer (Co-), $10,000+ grant funding	
Philosopher's Annual	*2017, 2016*
Editor (Volumes 35 and 36)	
Foundations of Belief and Decision Making Workshop	*2015-2017*
Coordinator (and Co-founder), $11,000+ grant funding	
9th Workshop in Decisions, Games and Logic	*July 2015*
Organizer (Co-), $4,000 grant funding	
Law & Philosophy Working Group	*2013-2015*
Coordinator (Co-), $12,000 grant funding	
Harvard Journal of Law and Technology	*2007-2009*
Editor	

Computer Skills

R, Python, SAS, JAGS, Stan

Memberships & Affiliations

State Bar of California, Provincial Bar of Ontario

References

Research

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Teaching

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