Geoff Keeling

♀ London, United Kingdom

Employment

Senior Research Scientist, Google Research.	2023-Present
Bioethicist, Google Health.	2021-2023
Postdoctoral Fellow, Institute for Human-Centered AI & Center for Ethics in Society, Stanford Uni	niversity. 2020–2021
Research Assistant , Leverhulme Centre for the Future of Intelligence, <i>University of Cambridge</i> .	2019-2020

Education

PhD in Philosophy , <i>University of Bristol</i> , No Corrections.	2017-2020
MA in Philosophy, University of Bristol, Distinction.	2016-2017
BSc in Philosophy, Logic, and Scientific Method, London School of Economics, First Class.	2013-2016

Research

Ethics of AI/ML, Moral and Political Philosophy, Bioethics, Cognitive Science.

Papers

- 1. Gabriel, I.*, Manzini, A.*, **Keeling, G.***, Hendricks, L. A., Reiser, V., Iqbal, H., Tomasev, N., Ktena, I., Kenton, Z., Rodriguez, M., El-Sayed, S., Brown, S., Akbulut, C., Trask, A., Hughes, E., Bergman, A. S., Shelby, R., Marchal, N., Griffin, C., Mateos-Garcia, J., Weidinger, L., Street, W., Lange, B., Ingerman, A., Lentz, A., Enger, R., Barakat, A., Krakovna, V., Siy, J. O., Kurth-Nelson, Z., McCroskery, A., Bolina, V., Law, H., Shanahan, M., Alberts, L., Balle, B., de Haas, S., Ibitoye, Y., Dafoe, A., Goldberg, B., Kreier, S., Reese, A., Witherspoon, S., Hawkins, Rauh, M., Wallace, D., Franklin, M., Goldstein, J.A., Lehman, J., Klenk, M., Vallor, S., Biles, C., Ringel Morris, M., King, H., Agüera y Arcas, B., Isaac, W., & Manyika, J. (2024). The ethics of advanced AI assistants. *arXiv preprint arXiv:2404.16244*. (*Equal Contribution) [Media: WIRED, CBS, The Information, Axios, MarkTechPost, MSN, Tech Policy Press]
- 2. Manzini, A., **Keeling, G.**, Marchal, N., McKee, K., Reiser, V., Haas, J., & Gabriel, I. (2024, June). Should users trust advanced AI assistants? Justified trust as a function of competence and alignment. In: *Proceedings of FAccT '24: ACM Conference on Fairness, Accountability, and Transparency.*
- 3. Manzini, A., **Keeling, G.**, Alberts, L., Vallor, S., Ringel Morris, M., & Gabriel, I. (2024, October). The code that binds us: Navigating the appropriateness of human-AI assistant relationships. In: *Proceedings of the Seventh AAAI/ACM Conference on AI, Ethics, and Society.*
- El-Sayed, S., Akbulut, C., McCroskery, A., Keeling, G., Kenton, Z., Jalan, Z., Marchal, N., Manzini, A., Shevlane, T., Vallor, S., Susser, D., Franklin, M., Bridgers, S., Law, H., Rahtz, M., Shanahan, M., Tessler, M.H., Douillard, A., Everitt, T., & Brown, S. (2024). A mechanism-based approach to mitigating harms from persuasive generative AI. arXiv preprint arXiv:2404.15058. [Media: VentureBeat]
- 5. Street, W., Siy, J.O., **Keeling, G.**, Baranes, A., Barnett, B., McKibben, M., Kanyere, T., Lentz, A., Agüera y Arcas, B., & Dunbar, R. (2024). LLMs achieve adult human performance on higher-order theory of mind tasks. *arXiv preprint arXiv:2405.18870v1*.

- 6. Schaekermann, M., Spitz, T., Pyles, M., Cole-Lewis, H., Wulczyn, E., Pfhol, S.R., Martin, D., Jaroensri, R., Keeling, G., Liu, Y., Farquhar, S., Xue, Q., Lester, J., Hughes, C., Strachan, P., Tan, F., Bui, P., Mermel, C.H., Peng, L.H., Matias, Y., Corrado, G.S., Webster, D.R., Virmani, S., Semturs, C., Liu, Y., Horn, I., & Chen, P-H.C. (2024). Health equity assessment of machine learning performance (HEAL): a framework and dermatology AI model case study. Lancet eClinicalMedicine. [Media: MarkTechPost]
- 7. Alberts, L., **Keeling, G.**, & McCroskery, A. (2024). Should agentic conversational AI change how we think about ethics? Characterising an interactional ethics centred on respect. *arXiv preprint arXiv:2401.09082v2*.
- 8. **Keeling, G.** & Street, W. (2024). On the attribution of confidence to large language models. *arXiv preprint arXiv:* 2407.08388v1.
- 9. **Keeling, G.**, Lange, B., McCroskery, A., Pedersen, K., Weinberger, D., & Zevenbergen, B. (2024). Moral imagination for engineering teams: The technomoral scenario. *International Review of Information Ethics*, 34(1).
- 10. Lange, B.*, **Keeling, G.***, McCroskery, A., Zevenbergen, B., Blascovich, S., Pedersen, K., Lentz, A., & Agüera y Arcas, B. (2023). Engaging engineering teams through moral imagination: a bottom-up approach for responsible innovation and ethical culture change in technology companies. *AI and Ethics*, 1-10. (*Equal Contribution)
- 11. Keeling, G. (2023). Algorithmic bias, generalist models, and clinical medicine. AI and Ethics, 1-12.
- 12. **Keeling, G.** & Nyrup R. Explainable machine learning, patient autonomy, and clinical reasoning. In: Véliz, C. (Ed). (2023). *Oxford Handbook of Digital Ethics* (pp. 528–552). Oxford University Press.
- 13. Keeling, G. (2023). A dilemma for reasons additivity. Economics & Philosophy, 39(1), 20-42.
- 14. Grote, T. & **Keeling, G.** (2022). Enabling fairness in healthcare through machine learning. *Ethics and Information Technology*, *24*(*3*), 39.
- 15. **Keeling, G.** Automated vehicles and the ethics of classification. In: Jenkins, R., Cerný, D., & Hríbek, T. (Eds). (2022). *Autonomous Vehicle Ethics: The Trolley Problem and Beyond* (pp. 41-57). Oxford University Press.
- 16. Grote, T. & **Keeling, G.** (2022). On algorithmic fairness in medical practice. *Cambridge Quarterly of Healthcare Ethics*, 31(1), 83-94.
- 17. **Keeling, G.** & Burr, C. Digital manipulation and mental integrity. In: Jongepier, F., & Klenk, M. (2022). *The Philosophy of Online Manipulation* (pp. 253-271). Routledge.
- 18. Keeling, G. & Paterson, N. (2022). Proper functions: etiology without typehood. Biology & Philosophy, 37(3), 19.
- Bommasani, R., Hudson, D.A., Adeli, E., Altman, R., Arora, S., Arx, S.V., Bernstein, M.S., Bohg, J., Bosselut, A., Brunskill, E., Brynjolfsson, E., Buch, S., Card, D., Castellon, R., Chatterji, N.S., Chen, A.S., Creel, K.A., Davis, J., Demszky, D., Donahue, C., Doumbouya, M., Durmus, E., Ermon, S., Etchemendy, J., Ethayarajh, K., Fei-Fei, L., Finn, C., Gale, T., Gillespie, L., Goel, K., Goodman, N.D., Grossman, S., Guha, N., Hashimoto, T., Henderson, P., Hewitt, J., Ho, D.E., Hong, J., Hsu, K., Huang, J., Icard, T.F., Jain, S., Jurafsky, D., Kalluri, P., Karamcheti, S., Keeling, G., Khani, F., Khattab, O., Koh, P., Krass, M.S., Krishna, R., Kuditipudi, R., Kumar, A., Ladhak, F., Lee, M., Lee, T., Leskovec, J., Levent, I., Li, X., Li, X., Ma, T., Malik, A., Manning, C.D., Mirchandani, S., Mitchell, E., Munyikwa, Z., Nair, S., Narayan, A., Narayanan, D., Newman, B., Nie, A., Niebles, J., Nilforoshan, H., Nyarko, J.F., Ogut, G., Orr, L.J., Papadimitriou, I., Park, J.S., Piech, C., Portelance, E., Potts, C., Raghunathan, A., Reich, R., Ren, H., Rong, F., Roohani, Y.H., Ruiz, C., Ryan, J., R'e, C., Sadigh, D., Sagawa, S., Santhanam, K., Shih, A., Srinivasan, K.P., Tamkin, A., Taori, R., Thomas, A.W., Tramèr, F., Wang, R.E., Wang, W., Wu, B., Wu, J., Wu, Y., Xie, S.M., Yasunaga, M., You, J., Zaharia, M.A., Zhang, M., Zhang, T., Zhang, X., Zhang, Y., Zheng, L., Zhou, K., & Liang, P. (2021). On the opportunities and risks of foundation models. arXiv preprint arXiv:2108.07258. [Media: Forbes, The Economist, VentureBeat, WIRED]
- 20. **Keeling, G.** (2020). Why trolley problems matter for the ethics of automated vehicles. *Science and Engineering Ethics*, *26*(1), 293-307.

- 21. **Keeling, G.**, Evans, K., Thornton, S. M., Mecacci, G., & Santoni de Sio, F. Four perspectives on what matters for the ethics of automated vehicles. In: Meyer, G. & Beiker, S. (Eds). (2019). *Road Vehicle Automation 6* (pp. 49-60). Springer International Publishing.
- 22. **Keeling, G.** (2018). Legal necessity, Pareto efficiency & justified killing in autonomous vehicle collisions. *Ethical Theory and Moral Practice*, 21(2), 413-427.
- 23. **Keeling, G.** Against Leben's Rawlsian collision algorithm for autonomous vehicles. In: Müller, V. (Ed). (2018). *Philosophy and Theory of Artificial Intelligence 2017* (pp. 259-272). Springer International Publishing.
- 24. Keeling, G. (2018). The sensitivity argument against child euthanasia. Journal of Medical Ethics, 44(2), 143-144.
- 25. Keeling, G. (2018). Autonomy, nudging and post-truth politics. Journal of Medical Ethics, 44(10), 721-722.
- 26. **Keeling, G.** (2017). Commentary: Using virtual reality to assess ethical decisions in road traffic scenarios: applicability of value-of-life-based models and influences of time pressure. *Frontiers in Behavioral Neuroscience*, 11, 247-48.

Selected Talks

1. Do Large Language Models Have Credences?

AI and Ethics Workshop, Princeton University, 2024.

Institute for Ethics in Technology, Hamburg University of Technology, 2024.

2. The Ethics of Advanced AI Assistants.

Being Human in the Age of AI, Institute of Philosophy, 2024.

Conference on the Ethics of Generative AI & Conversational Agents, LMU Munich, 2024.

3. Educational Impact of Advanced AI Assistants.

AI in Education Workshop, University of Bristol, 2024.

4. Autonomy, Advice-Giving, and AI Assistants.

Autonomy in an AI World, Imperial College London, 2024.

5. Engaging Google Teams Through Moral Imagination, with Amanda McCroskery, Ben Zevenbergen, et al.

Paris Conference on AI & Digital Ethics, 2023.

NeurIPS Workshop on Cultures in AI/AI in Culture, 2022.

6. Panel: Fairness in Machine Learning, with Sam Corbett-Davies and Susan J. Brison.

Neukom Institute for Computational Science, Dartmouth College, 2022.

7. Algorithmic Bias, Generalist Models, and Clinical Medicine.

Workshop on the Ethics of Influence, University of Oxford, 2022.

8. The Ethics of Autonomous Vehicles.

Philosophy and AI Seminar, Meta, 2022.

Center for Human-Compatible AI, UC Berkeley, 2021.

9. Enabling Fairness in Healthcare through Machine Learning.

Stereotyping and Medical AI Colloqium, King's College London, 2021.

10. Object Classification, Autonomous Vehicles, and the Reasonable Belief Standrd

2nd CEPPA Graduate Conference on Moral and Political Philosophy, University of St Andrews, 2019. Automated Vehicles Symposium, Orlando FL, 2019.

Service

Organising Committee, Paris Conference on AI & Digital Ethics. FAccT Program Committee, Association for Computing Machinary. President, British Postgraduate Philosophical Association. Executive Committee Member, British Philosophical Association.	2024-Present 2018-2019 2018-2019 2018-2019
Teaching	
Ethics, Law, and Politics of Artificial Intelligence, Primary Instructor, Stanford University. Political Philosophy, Seminar Tutor, University of Bristol. Research Methods for Social Science, Seminar Tutor and Guest Lecturer, University of Bristol. Formal Logic, Seminar Tutor, University of Bristol.	2020-2021 2019-2020 2018-2019 2017-2018
Awards	
PhD Studentship , Arts and Humanities Research Council, c.a. £55,000. Awarded through the South, West and Wales Doctoral Training Partnership.	2017-2020
Andrea Mannu Prize , <i>London School of Economics</i> . Awarded for joint-best performance across all undergraduate philosophy programs (joint-1st/51).	2016
Research Students	
Lize Alberts , DPhil Candidate in Computer Science, <i>University of Oxford</i> . Primary supervisor for 3 month Student Researcher engagement at Google Research.	2023
Public Policy	
Law Commission of England and Wales and Scottish Law Commission. Consulted for the 2022 joint report on 'Autonomous Vehicles.' [Link]	2021
Wider Engagement	
Panel: Industry-Academia Collaboration in Responsible AI, with Murray Shanahan & Winnie Street. Leverhulme Centre for the Future of Intelligence, University of Cambridge.	2024
Panel: Careers in AI Ethics and Policy, with Risto Uuk & Ashyana-Jasmine Kachra. London School of Economics.	2024
Podcast: Could AI Undermine Informed Consent?, with Rune Nyrup & Reid Blackman. Ethical Machines Podcast.	2024
Panel: Spotlight on Ethical AI, with Mandeep Soor, Ismael Garcia & Timothy Wu. London School of Economics.	2023
Public Talk: Ethics and Large Language Models. Penningtons Manches Cooper & Ethical Reading.	2023

Careers Talk: Practical Ethics in Silicon Valley.	2022
Uehiro Centre for Practical Ethics, University of Oxford.	
Talk: Teaching AI Ethics: Lessons from Stanford and Google.	2022
National Symposium on Developing Socially Responsible STEM Professionals, City, University of London.	
Careers Talk: Practical Ethics in Tech.	2021
Let's Phi: Beyond Academic Philosophy.	
Lecture: AI Ethics and the Long Term Future.	2021
CreAItivity Workshop (for underprivileged high school students).	
Careers Talk: Philosophy Careers Outside Academia.	2021
Department of Philosophy, University of Bristol.	
Public Talk: Medical Reasoning in the Age of Artificial Intelligence.	2020
Milton Keynes Artificial Intelligence Expert Forum.	
Panel: Artificial Intelligence in Healthcare, with Kourosh Saeb-Parsy, Slawomir Nasuto & Weizi Vicky Li.	2019
Austin Vita & Ethical Reading Public Event on AI in Healthcare.	
Talk: The Ethics of Automated Vehicles.	2018
St Edward's School Oxford	

Peer Review

Referee for Nature, Nature Machine Intelligence, British Journal for the Philosophy of Science, Journal of Applied Philosophy, Utilitas, Journal of Ethics, Synthese, Journal of Medical Ethics, Ethics and Information Technology, Science and Engineering Ethics, Philosophy and Technology, Res Publica, AI and Society, IEEE Transactions on Technology and Society, IEEE Intelligent Transportation Systems Transactions, IEEE Access, and Virtual Reality. I have also refereed for ACM FAccT, NeurIPS and AAAI/ACM Conference on AI, Ethics and Society, alongside the MIT Press and the John Templeton Foundation.