

RACHEL FREEDMAN

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Education

2019-2025 (expected)	Artificial Intelligence PhD, UC Berkeley I work with the Center for Human-Compatible Artificial Intelligence (CHAI) on AI safety via reinforcement learning, reward modeling, and assistance games. My advisor is Professor Stuart Russell.	3.93 GPA
2013-2017	Computer Science/Psychology BA, Duke University <ul style="list-style-type: none">• Graduated Phi Beta Kappa and <i>magna cum laude</i>• Earned High Distinction in Computer Science for my research thesis (now published in the journal <i>Artificial Intelligence</i>)• Designed original interdepartmental major entitled "Artificial Intelligence Systems," combining computer science, neuroscience and philosophy to explore interdisciplinary perspectives on AI	3.93 GPA
2015-2016	CS/Philosophy Registered Visiting Student, Oxford University Co-founded "Stop the Clock", an existential risk research discussion society that held weekly meetings at the Future of Humanity Institute	3.93 GPA
2011-2017	Part-Time Student, UNC Chapel Hill	4.00 GPA

Publications

Rachel Freedman, Jana Schaich Borg, Walter Sinnott-Armstrong, John Dickerson, and Vincent Conitzer. "Adapting a Kidney Exchange Algorithm to Align with Human Values". *Artificial Intelligence*, v. 283, 2020. Also presented at *AAAI 2018*, *AIES 2018*, *MD4SG 2018*, and the *Participatory ML workshop at ICML 2020*.

Outstanding Student Paper Honorable Mention at *AAAI 2018*..

Rachel Freedman, Rohin Shah, and Anca Dragan. "Choice Set Misspecification in Reward Inference". In *Workshop on Artificial Intelligence Safety at IJCAI 2020*.

Best Paper Award at *AAAI 2020 SafeAI Workshop*.

Rohin Shah, Pedro Freire, Neel Alex, **Rachel Freedman**, Dmitrii Krashennnikov, Lawrence Chan, Michael Dennis, Pieter Abbeel, Anca Dragan and Stuart Russell. "Benefits of Assistance over Reward Learning". In *Cooperative AI Workshop at NeurIPS 2020*.

Best Paper Award at *NeurIPS 2020 CoopAI Workshop*.

Oliver Daniels-Koch, **Rachel Freedman**. "The Expertise Problem: Learning from Specialized Feedback". In *ML Safety Workshop at NeurIPS 2022*.

Peter Barnett, **Rachel Freedman**, Justin Svegliato, Stuart Russell. "Active Reward Learning from Multiple Teachers". In *SafeAI at AAAI 2023*.

Work and Research

2019-pres.	CHAI PhD Researcher UC Berkeley (Berkeley, CA) <ul style="list-style-type: none">• Research topics include reinforcement learning, active learning, and reward modeling in support of robustly beneficial and safe AI• Pivoted from interdisciplinary undergraduate degree to technical graduate program via extensive independent study of foundational mathematics, reinforcement learning, deep learning and advanced robotics alongside coursework and research• Contributed technical feedback to reports for the United Nations and the World Economic Forum and Brian Christian's book <i>The Alignment Problem</i>• Advised by Prof. Stuart Russell, also worked with Prof. Anca Dragan
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- 2017-2019 **Software Engineer and Consultant** *Galatea Associates (London, UK)*
- Designed and developed complex position-keeping and regulatory compliance solutions for financial institutions
 - Collaborated with international team of consultants, engineers, contractors and stakeholders to manage ever-changing business problems and constraints
 - Learned new tools and languages rapidly as required
- 2016-2017 **Moral AI Researcher** *Duke University (Durham, US)*
- Conducted a year-long independent research project incorporating computer science and psychology methodologies into the field of artificial morality
 - Adapted a kidney exchange algorithm to align with human values by modeling underlying frameworks in human responses to moral dilemmas
 - Awarded High Distinction for my thesis research; presented and published this work at AAAI 2018, where it won Outstanding Student Paper Honorable Mention
 - Published in *Artificial Intelligence*, poster presented at AIES 2018 and MD4SG 2018.
- 2015 summer **Software Engineering Intern** *Microsoft (Seattle, US)*
- 2013-2014 **Psychology and Neuroscience Research Assistant** *Duke University (Durham NC, US)*

Honors

- Conferences & Workshops **Invited Talk** *Institute for Advanced Study WAM Program (2022)*
Ambassador *Effective Altruism Global (2020 - 2021)*
Best Paper Award *CoopAI Workshop at NeurIPS (2020)*
Best Paper Award *AI Safety Workshop at IJCAI-PRICAI (2020)*
Outstanding Student Paper Honorable Mention *AAAI (2018)*
- Graduate **Rising Star in AI Ethics** *Women in AI Ethics (2021)*
EECS Excellence Award *UC Berkeley (2019)*
EECS Departmental Fellowship *UC Berkeley (2019)*
- Undergraduate **Phi Beta Kappa** *Duke University (2017)*
magna cum laude *Duke University (2017)*
High Distinction in Computer Science *Duke University (2017)*
Robertson Scholarship *Robertson Scholarship Leadership Program (2013-2017)*
Thomas J. Watson Memorial Scholarship *IBM (2013-2016)*
- Other **Rhodes Scholarship Finalist** *Rhodes Trust (2017)*
Gates Cambridge Finalist *Gates Cambridge Trust (2019)*
President's Volunteer Service Gold Award *US Government (2013)*

Service and Leadership

- 2022-pres **AI Safety Advisor** *80000 Hours (remote contractor)*
- 2022 **Intern Advisor** *Center for Human-Compatible AI*
- 2022 **Reviewer** *NeurIPS ML Safety Workshop (MLSW22)*
- 2022 **Reviewer** *Journal of Artificial Intelligence (JAIR)*
- 2021 **Program Committee** *IJCAI Workshop on Artificial Intelligence Safety*
- 2015-2016 **Co-founder and President** *Oxford Existential Risk Society (Oxford, UK)*
- Co-founded the society, which grew to comprise over twenty five students, academics, and community members who met weekly at the Oxford Future of Humanity Institute to discuss academic research on
 - Recruited speakers from Machine Intelligence Research Institute, Oxford Future of Humanity Institute, and UT Austin
 - Advised students founding similar groups at Princeton and Cambridge

Invited Talks and Panels

2022	Approaches to AI Safety <i>EAGx Berkeley</i>
2022	Value Alignment <i>Institute for Advanced Study WAM program</i>
2022	My Approach to Alignment Research <i>SERI MATS seminar series</i>
2022	Reward Modeling and Human Model Misspecification <i>CHAI Workshop</i>
2022	Panel on AI <i>Duke University Career Center</i>
2021	Panel on Graduate School <i>AI Safety Support</i>

Skills and Hobbies

Programming	Java, python, Julia, git; extensive practice learning new technologies quickly and proactively via engineering and consulting work
Service	Tutored and mentored at-risk elementary school students regularly for two years in North Carolina (for which I earned the President's Volunteer Service Gold Award), volunteered full-time for several months to support creative opportunities for students in rural Mississippi, mentor young people seeking a career in AI (particularly those from underrepresented backgrounds) on an ongoing basis
Martial Arts	Earned World Taekwondo Federation-certified master (4th degree) black belt in Taekwondo after a decade of training. Trained, taught and competed for 12 years.
Creative Writing	Served as writer-in-residence at Italian artist residency "Arte Studio Ginestrelle." Stories and plays published at Duke, UNC and Oxford University student publications, and performed at Duke New Works Festival in 2014.

