Jessica Woodgate

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Computer Science Ph.D. student at the University of Bristol. Passionate about the impact of technology on society and driving the future of responsible innovation, I believe interdisciplinary and collaborative work is the best way to make meaningful contributions to this area. My research interests lie in the domain of AI ethics and multi-agent systems, specifically applying normative ethics principles to decision-making in sociotechnical systems (STS).

Education

Ph.D. Computer Science — Bristol, UK
University of Bristol, Supervised by Dr. Nirav Ajmeri and Dr. Paul Marshall — *November 2022 – February 2027*

M.Sc. Computer Science (Conversion): Distinction — Bristol, UK
University of Bristol, Supervised by Dr. Nirav Ajmeri — *September 2020 – January 2022*

- Dissertation title: *Applying Ethical Principles to Multiple-User Social Dilemmas* 80%

B.A. (Hons) Philosophy: Upper Second-Class Honours 68.5% — Sheffield, UK
University of Sheffield — *September 2015 – July 2018*

- Final modules: Global Justice 71%, Philosophy of Law 71%, Plato's Symposium 72%

Academic Experience

Research Assistant, University of Bristol — *January 2022 – November 2022*

- Advanced directions for the application of normative ethical principles to multiple user social dilemmas
- Conducted a critical analysis of ethical principles in computer science literature, and how they can be operationalised for responsible AI in STS
- Presented accepted Blue Sky paper at AAMAS 2022
- Secured funding to attend and participate through student volunteering at IJCAI 2022

Publications

- Jessica Woodgate. *Ethical Decision-Making in Multi-Agent Systems*. (Accepted/In press). Proc. of 24th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS) Doctoral Consortium, 2025, p. 1–3.
- Jessica Woodgate and Nirav Ajmeri. *Combining Normative Ethics Principles to Learn Prosocial Behaviour*. (Accepted/In press). Proc. of 24th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS), 2025, p. 1–3.
- Jessica Woodgate, Paul Marshall, and Nirav Ajmeri. *Operationalising Rawlsian Ethics for Fairness in Norm-Learning Agents*. Proc. of 39th Annual AAAI Conference on Artificial Intelligence (AAAI), 2025, p. 26382–26390.
- Jessica Woodgate and Nirav Ajmeri. *Macro Ethics Principles for Responsible AI Systems*: *Taxonomy and Future Directions*. ACM Computing Surveys (CSUR), 2024, pages 1–37.
- Jessica Woodgate. *Ethical Principles for Reasoning about Value Preferences*. Proc. of 6th International Conference on Artificial Intelligence, Ethics and Society (AIES), Student Track, Montreal, 2023, pages 972–974.
- Jessica Woodgate and Nirav Ajmeri. *Macro Ethics for Governing Equitable Sociotechnical Systems*. Proc. of 21st International Conference on Autonomous Agents and Multiagent Systems (AAMAS), Blue Sky Idea Track, Auckland, 2022, pages 1824–1828.

Academic Presentations

Invited Talks

- January 2025. *Generated Science*: *How AI is Impacting Academic Publishing*. Copenhagen University Library, Online.
- November 2024. *Generated Science*: *How AI is Impacting Academic Publishing*. Knowledge Exchange Expert Meeting. Jisc, Bristol.

Conference Papers

- February 2025. *Operationalising Rawlsian Ethics for Fairness in Norm-Learning Agents*. 39th Annual AAAI Conference on Artificial Intelligence (AAAI). Philadelphia.
- August 2023. *Ethical Principles for Reasoning about Value Preferences*. 6th International Conference on Artificial Intelligence, Ethics and Society (AIES), Student Track. Montreal.
- May 2022. *Macro Ethics for Governing Equitable Sociotechnical Systems*. 21st International Conference on Autonomous Agents and Multiagent Systems (AAMAS), Blue Sky Idea Track. Auckland, Online.

Research Presentations

- May 2025. *Combining Normative Ethics Principles to Learn Prosocial Behaviour*. Interactive AI Lunch and Learn Seminar Series. The University of Bristol.
- February 2025. *Operationalising Rawlsian Ethics for Fairness in Norm-Learning Agents*. Interactive AI Lunch and Learn Seminar Series. The University of Bristol.
- January 2025. *Normative Ethics for Prosocial Behaviour. Citizen-Centric AI Systems Workshop*. The Royal Society, London.
- November 2023. *Paradigm Agents for a Just Society. Citizen-Centric AI Systems Workshop*. The Royal Society, London.
- September 2023. *Paradigm Agents for a Just Society. Interactive AI Lunch and Learn Seminars*. The University of Bristol.

Professional Service

Organiser, Protecting the Earth with Autonomous Systems (PROTEAS) *November 2024 – ongoing*

- Advance workshop development, supervise student projects, and investigate how robotics and computer science educational practices can support students in considering sustainability throughout their courses

Organiser, Citizen-Centric AI Systems (CCAIS) Seminars *July 2023 – ongoing*

- Facilitated 16 seminars, liaising with 18 speakers and 8 organising academics to disseminate research about Citizen-Centric AI
- Moderate seminars, liaise with speakers, promote upcoming talks, and maintain website

Organiser, Data Ethics Club (DEC) *January 2023 – ongoing*

- Authored over 35 blog posts summarising discussions about a variety of cutting-edge data ethics topics
- Nurture community engagement and moderate discussions

PC Member, C-MAS workshop, AAMAS *March 2025*

Student Volunteer, AAAI *February 2025*

- Administered and helped coordinate student volunteers, ensuring that sessions ran smoothly and rooms were fully equipped

PC Member, C-MAS workshop, AAMAS *March 2024*

Consultant, AI Ethics for Journalists, The Thompson Foundation *April 2023*

- Advised development of course on AI ethics for journalists, providing critical feedback on course content and structure

PC Member, AAMAS Blue Sky Track *December 2022*

Student Volunteer, IJCAI *August 2022*

- Assisted in running technical sessions, supporting speakers, and helping with registration

Academic Projects (all available on Github)

Developer, RAWL·E *February 2025*

- Innovated responsible reinforcement learning (RL) agents that promote ethical norms by balancing societal well-being with individual goals
- Demonstrated the effectiveness of ethical decision-making in promoting the emergence of social norms that support fairness and sustainability in a society of agents

SCRUM Leader, Database Lead, Back-End Co-Developer, Left Unread
Module: Software Engineering and Group Project *February 2021 – May 2021*

- Directed a premier project achieving 81% as SCRUM team leader
- Effectuated productive and regular meetings, ensuring sprint goals were set and met, all team members were supported, user impact was addressed in the short and long term, and ethical framework was adhered to
- Led database development and co-developed back-end development including building the API, and ensuring other back-end developers stayed on track

Developer, STAG
Module: Object-Oriented Programming with Java *June 2021*

- Constructed an accomplished general-purpose socket-server game-engine for text adventure games in Java achieving 76%

Developer, DB
Module: Object-Oriented Programming with Java *March 2021*

- Built a relational database server from scratch in Java achieving 76%

Awards

- Successfully secured funding to attend AAMAS, 1200 USD *May 2025*
- Successfully secured funding to attend AAAI, 1200 USD *February 2025*
- Successfully secured funding to attend AIES, 1300 USD and 750 GBP *August 2023*
- Successfully secured funding to attend IJCAI, 350 USD *August 2022*

Teaching Experience

Postgraduate Project Co-Supervisor Bristol, UK
Bristol Robotics Laboratory, University of Bristol *May 2025 – September 2025*

- Overseeing Robotics M.Sc. Summer Project harnessing cutting-edge computer vision technologies to detect the presence of strawberry flowers for artificial pollination in vertical farming

Teaching Assistant Bristol, UK
Department of Computer Science, University of Bristol *September 2022 – December 2022*

- Coordinated sessions and led student support in the Introduction to Computer Science module for Computer Science (Conversion) M.Sc

Skills

- Developed and tested multiple simulation environments suitable for evaluating responsible AI
- Effective fundraiser attaining over £600 for Cancer Research in March 2017 by running the Manchester Marathon
- Drive collaborative work by engaging with communities across the world through environmental conservation outreach programs