

**Alexi Orchard, PhD**

## Curriculum Vitae

*Last updated December 2024***Professional Appointments**

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|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 08/2024 + | <b>Assistant Teaching Professor, <a href="#">Technology and Digital Studies</a></b><br>College of Arts and Letters, University of Notre Dame, United States.                       |
| 08/2024 + | <b>Director of Undergraduate Studies, <a href="#">Idzik Computing and Digital Technologies</a></b><br>minor, College of Arts and Letters, University of Notre Dame, United States. |

**Education**

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| 2020 - 2024 | <b>Doctor of Philosophy: English Language and Literature</b><br>Co-supervised by Marcel O’Gorman (English Language & Literature) and<br>Jennifer Boger (Systems Design Engineering)<br><i>Thesis: Interdisciplinary Pedagogy for Ethical Engineering and Responsible Innovation</i><br>University of Waterloo, Canada. |
| 2019 – 2020 | <b>Master of Arts: Experimental Digital Media</b><br><i>Major Research Project: Embedding Ethics and Empathy in the Engineering Curriculum</i><br>University of Waterloo, Canada.                                                                                                                                      |
| 2017 – 2019 | <b>Bachelor of Interdisciplinary Studies: Communication Major</b><br><i>Thesis: Perceptions of Data Privacy in the Age of Social Media Addiction</i><br>Thompson Rivers University, Canada.                                                                                                                            |
| 2015 – 2017 | <b>Business Administration Diploma</b><br>Olds College, Canada.                                                                                                                                                                                                                                                        |

**Teaching**

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**Assistant Teaching Professor, University of Notre Dame**

| <i>Term</i> | <i>Course Title, Course Code</i>                                                                                               |
|-------------|--------------------------------------------------------------------------------------------------------------------------------|
| Spring 2025 | Elements of Computing 1, CDT 30010<br>Generative AI in the Wild, CDT 30750; CDT 90750<br>Social Issues in AI Ethics, CDT 30802 |
| Fall 2024   | Elements of Computing 1, CDT 30010<br>Generative AI in the Wild, CDT 30750                                                     |

**Sessional Instructor, University of Waterloo**

| <i>Term</i> | <i>Course Title, Course Code</i>                      |
|-------------|-------------------------------------------------------|
| Spring 2024 | Rhetorical Theory and Criticism, ENGL 292             |
| Fall 2023   | Communication in the Engineering Profession, ENGL 192 |
| Fall 2022   | Communication in the Engineering Profession, ARTS 190 |

**Teaching Assistant, University of Waterloo**

| <i>Term</i> | <i>Course Title, Course Code, Department</i>                            |
|-------------|-------------------------------------------------------------------------|
| Winter 2023 | Ethics and Values in Design, GBDA 306, Global Business and Digital Arts |
| Winter 2022 | Biomedical Engineering Ethics, BME 381, Biomedical Engineering          |
| Fall 2021   | Introduction to Design, SYDE 161, Systems Design Engineering            |

Spring 2020 Introduction to Academic Writing, ENGL 109, English  
 Winter 2020 Communication in the Sciences, ENGL 193, English  
 Fall 2019 Genres of Business Communication, ENGL 210F, English

### Guest Lectures

MM/YYYY "Lecture Title," Course Code: Course Title  
 01/2024 "Deceptive Design," ENGL 108D: Digital Lives  
 10/2023 "Engineering Ethics Education," PACS 315: Engineering and Peace  
 10/2023 "Persuasive Technology," ARTS 130: The Rhetoric of Smartphones  
 03/2023 "Designing for Equity in Public Spaces," SYDE 362: Systems Design Methods 2  
 03/2023 "Value Sensitive Design," ARTS 190: Communication in Engineering Profession  
 03/2023 "Persuasive Design," GBDA 306: Ethics and Values in Design  
 11/2022 "Intro to Machine Learning Ethics," BME 101: Intro to Biomedical Engineering  
 03/2022 "Surveillance and Privacy," ENGL 295: Social Media  
 11/2021 "Intro to Machine Learning Ethics," SYDE 101: Intro to Systems Engineering  
 11/2021 "Responsible Design," ENGL 392: Information Design  
 03/2021 "Intro to Machine Learning Ethics," SYDE 362: Systems Design Methods 2

### Publications

#### Refereed

H.A. Love, G. Adamson, M. James, J. Lajoie, I. Mareels, Z. Pearl, D. Schiff, K. Schmitt, T. Arohi, J. Buchanan, S. Camaréna, M. Kaevats, J. Reynolds, P. Albuquerque, J. Havens, D. Chacón-Hurtado, S. Lahiri, A. Ocal, A. Orchard, M. Rigby, R. Sherlock, V. Sundararaj, Q. Zhu. (2024) "The Future of Work in the Age of Automation: Proceedings of a Workshop on Norbert Wiener's 21st Century Legacy." *IEEE Transactions on Technology and Society*. <https://ieeexplore.ieee.org/abstract/document/10798994>

A. Orchard and M. O'Gorman. "Fostering Responsible Innovation with Critical Design Methods." (2024) *Journal of Responsible Innovation*, 11(1), 2318823. <https://doi.org/10.1080/23299460.2024.2318823>

A. Orchard and D. Radke. "An Analysis of Engineering Students' Responses to an AI Ethics Scenario." *Proceedings of the AAAI Conference on Artificial Intelligence*, 37(13), Article 13. <https://doi.org/10.1609/aaai.v37i13.26880>

M. Guerzhoy, M. Neumann, P. Virtue, C.J. Anderson\*, Y.K. Singla\*, A. Orchard\*, & R. Ratn Shah\*. (2023) "EAAI-23 Blue Sky Ideas in Artificial Intelligence Education from the AAAI/ACM SIGAI New and Future AI Educator Program." *AI Matters*, 9(2), 24–29.

D. Radke and A. Orchard. "Presenting Multiagent Challenges in Team Sports Analytics." *Proc. of the 2023 International Conference on Autonomous Agents and Multiagent Systems*, 1781–1785. <https://dl.acm.org/doi/abs/10.5555/3545946.3598839>

A. Orchard, M. O'Gorman, C. La Vecchia, and J. Lajoie. "Augmented Reality Smart Glasses in Focus: A User Group Report." *CHI Conference on Human Factors in Computing Systems Extended Abstracts (CHI '22 Extended Abstracts)*. <https://doi.org/10.1145/3491101.3503565>

C. Truax, A. Orchard, and H. Love, "The Influence of Curriculum and Internship Culture on Developing Ethical Technologists: A Case Study of the University of Waterloo," *IEEE ISTAS 2021 Conf. Proc.*, pp.1-8, 10.1109/ISTAS52410.2021.9629124

J. Lajoie, A. Orchard, and H. Love, "Ethical Tech Pedagogy for Public Good: A Review of Educational Initiatives and Approaches," IEEE ISTAS 2020 Conf. Proc., pp. 29-32, doi: 10.1109/ISTAS50296.2020.9462181.

### **In-Press**

A. Orchard. "The Innovation Problem Finder Dartboard: Embedding Critical Design in the Engineering Workflow" in Conference Proceedings of the Canadian Engineering Education Association CEEA ACEG 2024.

A. Orchard. "Obstacles and Opportunities for an Embedded STS Program in Engineering" in Conference Proceedings of the Canadian Engineering Education Association CEEA ACEG 2024.

### **Non-refereed**

H. Love, J. Lajoie, A. Orchard, J. Kim, K. Lubin, J. Boger, and P. Sodhi, "Uniting Sustainability and Ethics in Engineering Curriculum: A Literature Review of Shared Challenges and Opportunities," Canadian Engineering Education Association CEEA ACEG 2021 Conf. Proc., Abstract only.

### **Notre Dame Service**

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|-----------|---------------------------------------------------------------------------------------------------------------------------------------|
| 12/2024 + | Reading Group Coordinator, Critical Tech Café. In collaboration with the <a href="#">Navari Family Center for Digital Scholarship</a> |
| 10/2024 + | Supervisor, Student Research Internships on "AI and Environmental Impact" Project, Technology and Digital Studies Program.            |

### **Notre Dame Presentations**

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|---------|--------------------------------------------------------------------------------------------------------------------|
| 10/2024 | "Reimagining the History of Women in Computing" Invited workshop, <a href="#">Association for Women in Science</a> |
| 09/2024 | "AI in the Wild" Contributed lecture with John Behrens, <a href="#">Crash Course Lecture Series</a>                |

### **Invited Presentations and Workshops**

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|---------|---------------------------------------------------------------------------------------------------|
| 05/2025 | Engineering Ethics and the Humanities, Invited Lecture, Purdue University                         |
| 03/2025 | Writing Program Speaker Series, Invited Workshop, New York Institute of Technology                |
| 10/2024 | PhD Graduate Reception Address, Invited as Finalist for Alumni Gold Medal, University of Waterloo |

### **Research Positions**

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|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 10/2023 - | <b>Research Assistant</b>                                                                                                                          |
| 02/2024   | "Emergent Encounters Action Project" PI: Craig Fortier. Funded by LITE Grant, Centre for Teaching and Learning Excellence. University of Waterloo. |
| 05/2020 - | <b>Lead Research Assistant</b>                                                                                                                     |

- 08/2024 “Critical by Design: Fostering Responsible Innovation through Critical Design Methods” PI: Marcel O’Gorman. Funded by UW/SSHRC Explore Grant 2021-22 and SSHRC Insight Grant 2022-25. University of Waterloo.
- “Ethical by Design: A Bottom-Up Approach to Fostering a ‘Tech for Good’ Ethos in the Innovation Ecology”. PIs: Marcel O’Gorman, Jennifer Boger, Heather Love, Matt Borland. Funded by the Interdisciplinary Trailblazer Fund. University of Waterloo.
- 04/2021 - **Research Assistant**
- 06/2022 “Ethical Tech Innovation: Uniting Educational Initiatives and Professional Practice”. PIs: Heather Love, Jason Lajoie, Jennifer Boger. Knowledge Synthesis Report funded by Social Sciences and Humanities Research Council and the Government of Canada’s Future Skills program. University of Waterloo.
- 01/2020 – **Research Assistant**
- 04/2020 “Heads-Up User Group (HUUG): An Ethnographic Study of Augmented Reality Glasses” PI: Marcel O’Gorman. Critical Media Lab, University of Waterloo
- 05/2018 – **Research Assistant**
- 05/2019 “First Impressions of Virtual Reality” PI: Andrew Fergus. Department of Human Enterprise & Innovation, Thompson Rivers University

### Conference Presentations and Workshops

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- 06/2024 “Critical and speculative design for the responsible anticipation of science and technology” Accepted paper at Canadian Communication Association (CCA)
- 11/2023 “Practicing Responsible Innovation” Workshop with Rebecca Sherlock at the Conference for Diversity in Engineering 2023, University of Waterloo, Canada.
- 11/2023 “A Cross-Disciplinary Approach to Making Responsible Innovation Actionable for Engineers and Technologists” Accepted paper at Society for Social Studies of Science (4S) Annual Meeting 2023
- 02/2023 “Using Critical Design Methods to Teach AI Ethics” Blue Sky Ideas Presentation for the AAAI/ACM SIGAI New and Future Educator Program. Symposium of Educational Advances in Artificial Intelligence (EAAI), Co-located with the Association for the Advancement of Artificial Intelligence (AAAI) 2023, Washington, DC, USA.
- 10/2022 “Enhancing Technologists’ Ethical Awareness Through Critical Design” Poster Presentation. Cybersecurity and Privacy Institute (CPI) Annual Conference, University of Waterloo, Canada.
- 06/2022 “Mending Engineering: A Workshop to Start Radically Repairing Engineering’s Relationship with the Rest of the World” Accepted workshop with Matt Borland, Kate Mercer, Jenny Howcroft, Matt Robichaud, and Shannon Veitch. Canadian Engineering Education Association (CEEAA ACEG) 2022 Annual Conference, York University, Toronto, Ontario, Canada.
- 06/2021 “Critical Design Interventions in Engineering Curriculum.” Accepted paper. Panel: “Making Media Theory: Critical Design in Action.” Canadian

06/2020 Communication Association. Congress 2021 of the Humanities and Social Sciences. Accepted paper. University of Alberta, Edmonton, Canada. (Virtual) “Interdisciplinary Roundtable” Panel. Association of Canadian College and University Teachers of English. Congress 2020 of the Humanities and Social Sciences. *Accepted paper – Conference cancelled due to COVID-19*

### Academic and Professional Service

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08/2024 Book Review Editor, [PUBLIC Journal](#)

08/2023 - Chapter Lead for Critical Media Lab in the [Quantum Ethics Project](#), University of  
08/2024 Waterloo, Canada

06/2023 - Member of Advisory Committee Centre for Society, Technology, and Values  
08/2024 ([CSTV](#)), University of Waterloo, Canada

01/2022 - Lab Manager, Critical Media Lab

08/2024 Speaker Series Coordinator for [Critical Tech Talk](#)

10/2021 Conference Volunteer, 2021 Meeting of the Society for the Social Studies of  
Science (4S) University of Toronto, Canada.

09/2021 Faculty of Arts Graduate Student Liaison, Cybersecurity and Privacy Institute  
(CPI), University of Waterloo, Canada.

04/2021 - Conference Organizing Committee, Fundraising and Sponsorship Volunteer,  
11/2021 Student-Volunteer Coordinator; IEEE International Symposium on Technology  
and Society (ISTAS), University of Waterloo, Canada.

2020-21 Chairperson of Student Committee, Council for Responsible Innovation and  
Technology, University of Waterloo, Canada.

05/2018 – Conference Organizing Committee, Annual Meeting Association for Authentic,  
09/2020 Experiential, & Evidence Based Learning (AAEEBL), Capilano University,  
Canada (2018); Bronx Community College, USA (2019); Salt Lake Community  
College, USA (2020; *Postponed due to COVID-19*)

### Professional Development and Other Activity

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09/2023 Four Seasons of Indigenous Learning program, First Nations University of  
Canada

07/2023 Completion of WatSPEED Introduction to Python Programming 3 Certificate

11/2022 Completion of Leading Equitable Data Practices Workshop, [LA Tech4Good](#)

11/2022 Featured quote in All Tech is Human’s [Better Tech Future Report](#)

05/2022 Alberta Machine Intelligence Institute (AMII) AI Week 2022; Received \$1,500  
AMII Talent Bursary

09/2021 Fundamentals of University Teaching certification, Centre for Teaching  
Excellence, University of Waterloo

06/2021 “SFU Data Fellowships: Towards Responsible Machine Learning.” Big Data  
Initiative, Simon Fraser University, Canada.

### Awards & Funding

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2024 Finalist, Alumni Gold Medal for Outstanding PhD Dissertation

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|-------------|------------------------------------------------------------|--------------|
|             | <i>University-wide competition, University of Waterloo</i> |              |
| <b>2024</b> | University of Waterloo: Graduate Research Studentship      | \$24,000 CAD |
| <b>2023</b> | University of Waterloo: Graduate Research Studentship      | \$24,000 CAD |
|             | Ontario Graduate Scholarship                               | \$15,000 CAD |
|             | University of Waterloo: President's Graduate Scholarship   | \$5,000 CAD  |
| <b>2022</b> | University of Waterloo: Graduate Research Studentship      | \$24,000 CAD |
|             | Waterloo Artificial Intelligence Institute Scholarship     | \$5,000 CAD  |
|             | Ontario Graduate Scholarship                               | \$15,000 CAD |
|             | University of Waterloo: President's Graduate Scholarship   | \$5,000 CAD  |
| <b>2021</b> | Ontario Graduate Scholarship                               | \$15,000 CAD |
|             | University of Waterloo: President's Graduate Scholarship   | \$5,000 CAD  |
|             | University of Waterloo: Graduate Research Studentship      | \$15,000 CAD |
| <b>2020</b> | University of Waterloo: Doctoral Entrance Award for Women  | \$5,000 CAD  |
|             | University of Waterloo: Interdisciplinary Trailblazer Fund | \$15,000 CAD |
| <b>2019</b> | Thompson Rivers University: Research Coach Award           | \$1,500 CAD  |
|             | Thompson Rivers University: Social Media Ambassador Award  | \$1,000 CAD  |
|             | Thompson Rivers University: Graduate Research Award        | \$2,000 CAD  |
| <b>2018</b> | Thompson Rivers University: Research Coach Award           | \$1,500 CAD  |