



ETHICAL AND FEMINIST ARTIFICIAL INTELLIGENCE (AI): AN INTRODUCTION TO MACHINE LEARNING FOR SOCIAL IMPACT

Grow your algorithmic literacy! If you are a non-technical practitioner, *you are absolutely needed* at the AI table! Learn the basics, gain skills, and build confidence to engage in social impact projects with machine learning components. If you work in gender & social inclusion support, proposal development, program design, backstopping, and other **non**-technical areas, this training is for you. This training assumes no prior understanding of algorithms and will use conceptual understandings, rather than statistical or data science approaches, to upskill you in this rapidly evolving technology. In this 6-day interactive online course, we will learn how machine learning algorithms operate, explore challenges around bias, ethics, and inclusion, and review development use cases. We will finish with best practices and examples of harnessing the power of machine learning for gender equity and social inclusion. This course will empower you to understand, advocate for, and address ethical AI concerns broadly and gender equality, social inclusion, diversity, and equity concerns specifically. You will emerge with a greater ability to read and apply USAID guidance and constructively collaborate with coders/developers for successful machine learning for social impact projects.

"I had the privilege of participating in Ethical AI for Social Impact course and can't recommend the course highly enough.

Emily is a knowledgeable teacher who is passionate about her work and has a gift in passing that on to her students. The class was amazing and eye opening. It underscored the urgent need to collectively increase our awareness and action as AI rapidly evolves to ensure we are doing so in an ethical way and not replicating and entrenching dangerous biases and discrimination.

This should be a required class for everyone!"

Sarah Roma
participant in Feminist and Ethical Artificial
Intelligence for Social Impact
with Dr. Emily Springer

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Day 1	Intro to AI, inequalities, and machine learning models Overview of machine learning, needed terms and definitions as a foundation, and collaborate to train an algorithm and explore its effectiveness
Day 2	Understanding data bias through neural nets Review digital divide cases and play Pictionary to understand data bias in AI
Day 3	Righting wrongs? Content moderation and fairness and bias metrics Dive into LLMs, like ChatGPT and other chatbots, to see data bias in action and intro to algorithmic auditing, testing metrics, and applications
Day 4	AI Regulation and the task of localizing Global AI Ethics Using the OECD definition, intro to global regulation efforts (EU AI Act and White House Bill of AI Rights) and policy efforts in the Global South
Day 5	Moving to practice for implementation in activities and organizations Case studies of ‘nudging’ in development, learn how to apply existing USAID guidance in your organization and push for robust AI policies
Day 6	Toward Ethical AI in practice Group discussion on participant case studies, presentation of alternatives to mainstream uses of machine learning, Q&A, and community building

Session 1: Intro to AI, inequalities, and machine learning models

1. Welcomer and training overview.
2. Definitions, terms, and learning models.
3. Apply terms with train your own algorithm activity.

A rapid introduction to the core understanding the fight for social justice and equality in the evolving context of artificial intelligence and automation. A conceptual introduction to machine learning models (supervised, unsupervised, reinforcement, and neural nets) and terms such as structured/unstructured data, data labeling, and optimization. We will finish the day with an activity and discussion where we train our own (supervised learning) algorithm to both apply the terms and critically interrogate the results.

Session 2: Understanding data bias through neural nets

1. Understanding the digital divide through two data bias cases.
2. How do neural nets work?
3. Looking under the hood of neural nets into data bias and potential solutions.

Data is not the only source of bias, but it’s definitely an important one! Using case studies, review how data inequality embeds into algorithmic performance. Debate the potentials and pitfalls of “we just need more data” as the most logical solution. Dive into the opaque world of neural net weights and biases. Play Pictionary with a neural net to understand data bias. Learn about efforts to enhance datasets and examples of datasets gone wrong.

Session 3: Righting wrongs? The need for content moderation and fairness and bias metrics

1. ChatGPT bias and content moderation efforts in large language models
2. What is algorithmic auditing?
3. Fairness/bias metrics and confusion matrix

Move newfound neural nets knowledge to practice by considering ChatGPT and its training data in the context of existing social norms. Learn about how content moderation and the work that precedes it. Dive into the world of algorithmic auditing by asking: What do we mean when we say fair? An overview of dominant fairness metrics, the confusion matrix, and its role in assessing accuracy. Move this into practice with a demo of IBM AI Toolkit and a peek at other fairness-testing solutions.

Session 4: AI Regulation and the task of localizing Global AI Ethics

1. Overview of global regulation efforts, including EU AI Act and the White House Bill of AI Rights.
2. Global South regulatory movements.
3. Functional use case discussion: predictive policing or predictive peacekeeping?

Broad overview of regulatory efforts in the Global North and efforts of OECD in ethical AI. Rapid review of Global South interests, regulations, and state of AI. If time allows: discuss the importance of functional use in determining ethical AI use.

Session 5: Moving to practice

1. Review USAID suite of machine learning guidance. Discuss included activities.
2. Nudge theory and high dimensional space.
3. Nudging in practice: ICTworks blog vs. DAWN case studies.

Review of the software development lifecycle and the importance of cross-functional teams that include *you*. Highlights from USAID's suite of machine-learning related reports and guidance materials (2016-2021). Review Nobel Prize winning theory of nudging and consider how the development sector might be tempted to use it.

Session 6: Toward Ethical AI in practice

1. Participant cases & discussion.
2. Presentation of feminist supercomputing as a solution (Data 2x cases).
3. General Q&A/debrief and next steps.

Come with an example of a ML/AI application in your area of interest for the group to discuss and debate. I will present an alternative use of machine learning to address inequalities. Opportunity to catch up on material if discussions have been rich throughout the training. Time to answer questions, reflect, and decide if, what, and how we want to keep the momentum going!

*Syllabus open to change due to trainer and/or participant interests

About the Trainer

Dr. Emily Springer is one of 100 Brilliant Women in AI Ethics™ in 2024 and serves as the emerging technologies consultant within the Gender and Human Rights technical division at UNFPA, specializing in ethical and feminist AI, and as the AI consultant with the Global Center for Gender Equality, providing technical gender assistance to Bill and Melinda Gates Foundation. Previously, Dr. Springer worked with Athena Infonomics as part of DAI's Digital Frontiers on a digital inclusion toolkit, World Bank's IFC as a strategy consultant for digitalization of African higher education institutions, and worked at a Microsoft partner building relational database and automation solutions for enterprise clients. She is trained as an interdisciplinary sociologist and completed a postdoc at Arizona State University in the US where she taught undergraduates about how machine learning changes not only our everyday interactions but also global geopolitical landscapes, and has taught and mentored graduate students in Development Practice and Social Justice programs. She has served as a consultant to numerous development organizations including World Bank Africa Gender Innovation Lab, DAI, CARE, and others. She often works for USAID DC to improve global practices around gender integration and inclusive tech. She is excited to help build a network of critical practitioners to ensure machine learning works for women in all their intersectional experiences.

Sign up now through [Cynara's Gender Training Platform!](#)

Tiered pricing adjusts for funding inequities and scholarships are available.

"The course inspired me. The content was in-depth yet easy to understand. I came away from the two weeks with the confidence to ask important questions about the ethics of AI in an informed way. Emily's knowledge and judgment in this field is impressive and I am very grateful to have attended her training."

*Heike Ekea Gleibs
participant in Feminist and Ethical Artificial
Intelligence for Social Impact
with Dr. Emily Springer*

"Emily's approach is rooted in the fundamentals of how AI really works and its impacts: good, bad and unknown. The training fosters thoughtful discussion of its implications on everything from climate to government regulations. Highly recommend for anyone interested in going beyond the hype."

*Stephanie Bluma
participant in Feminist and Ethical Artificial
Intelligence for Social Impact
with Dr. Emily Springer*

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“As someone with little prior knowledge of big data or algorithms, the course was the perfect entry point for me into the world of AI. Emily made what felt inaccessible to grasp, very accessible. Her facilitation is superb; clear, energetic and engaging. I feel I now have the algorithmic literacy to critically assess AI tools, the potential harm they can cause and the social inequalities they can reinforce. It also made me excited for the positive impact AI can have in the world of social impact!”

Anahita Alexander-Sefre
participant in *Feminist and Ethical Artificial Intelligence for Social Impact*
with Dr. Emily Springer

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“This course helped me grasp the basics of choosing and applying various AI applications that I will be putting to use immediately in my work, while ensuring this knowledge was deeply grounded in the ethical and intersectional feminist perspectives and realities essential to our mission. I highly recommend it to anyone working in a social mission context.”

Megan McGlynn Scanlon
participant in *Feminist and Ethical Artificial Intelligence for Social Impact*
with Dr. Emily Springer

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“This course brings you up to speed with the latest machine learning vocabulary, processes and thinking. It encourages you to engage in a way that works for you and the communities you work without blindly following the hype but also without discrediting it as a harmful tool - it's more complex than that! It's been a pleasure to explore all these complexities together with a fantastic and very engaging group.”

participant in *Feminist Artificial Intelligence for Social Impact* with Dr. Emily Springer

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“This training was an incredible introduction to Ethical AI and the importance of having a social scientist in a room full of technical people while making decisions that would change people's lives. It was an amazing opportunity to see how much further we have to work to allow AI to benefit everyone.”

Participant, *Feminist AI 101*

“ This training allowed me to build confidence to approach what is commonly thought of as an exclusively technical and quantitative subject. If you are looking for a way to quickly build up a panorama of this field, this is it! ”

Participant, Feminist AI 101

“ This should be a must-do course for all stakeholders involved in digital technology, from the funders to developers and end-users, so they know the repercussions it may have on people's lives if left unchecked. ”

participant in Feminist Artificial Intelligence for Social Impact with Dr. Emily Springer

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“ This training is wonderful for folks in academia, international development, or the public sector who are just getting started with their understanding of AI and how to envision ethical application of these technologies. The course is full of wonderful resources and tools that will allow the non-technical analyst or non-profit leader to have difficult conversations with engineers or technical partners. ”

participant in Feminist Artificial Intelligence for Social Impact with Dr. Emily Springer

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“ Attending this seminar was a fantastic experience! Thank you for challenging us to think outside the box! I feel truly inspired and thinking of ways to apply what I have learned to my professional career. I hope to keep in touch and can't wait to see what the future holds! ”

Participant, Feminist AI 101

“ This class is a perfect introduction for those interested in making sure digital technologies are used in an ethical and socially just way moving forward. It gives you a strong foundation from which to build upon in so many different ways and across multiple sectors. ”

Participant, Feminist AI 101

“ Emily is a wonderful presenter with a vast knowledge of Machine Learning and Artificial Intelligence at the nexus of ethics and international development. She was engaging and inclusive of everyone. ”

participant in Feminist Artificial Intelligence for Social Impact with Dr. Emily Springer

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