## Shaping Feminist Artificial Intelligence Then and Now

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#### Presentation Structure

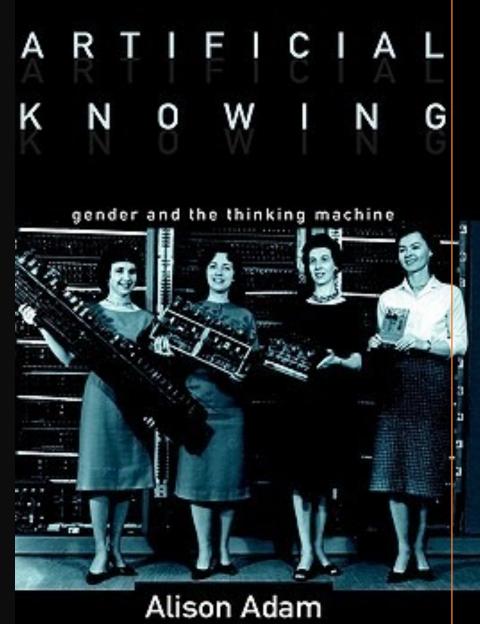
- Methodology
- History of FAI
- Typology for understanding contemporary forms of FAI and write back feminist history into AI.
  - FAI as model,
  - FAI as design,
  - FAI as science,
  - FAI as policy,
  - FAI as discourse,
  - FAI and as culture.
- Conclusion

#### Methodology

- Critical survey on the term *Feminist artificial Intelligence (FAI)* in scholarship, activist writings, NGO reports and practices.
- FAI includes other designations such as: Intersectional AI, posthuman feminist AI, transfeminist AI, intersectional decolonial AI, and global south feminist AI.
- Work that criticized AI from feminist perspectives were not included.

#### History of FAI

- British computer scientist and historian of science Alison Adam began critiquing Al from feminist perspectives, and then formulated the term feminist Al.
  - Oldest reference from Adam's work: Artificial intelligence and women's knowledge (1995).
  - She dedicated a whole chapter to FAI in her 1998 book Artificial Knowing: Gender and the Thinking Machine



Alison Adam

## Context in which FAI Emerges

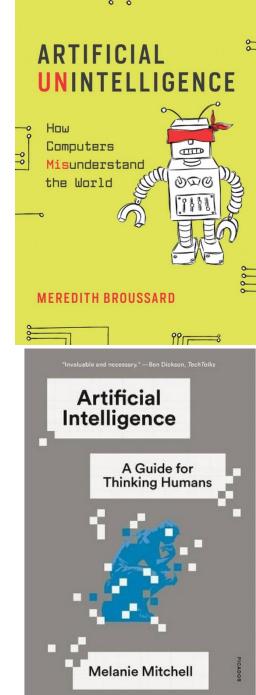
- In the late 1970s and 1980s, a body of work began to interrogate bias and prejudice within science through feminist epistemological perspectives.
- Influenced by situated knowledge (Haraway 1988)
- Alison Adam wrote about FAI when Symbolic AI (not connectivism) was still dominant (AI systems were expert systems or knowledge-based systems).
- In the early 1990s AI was understood in two ways:
  - Al as science meaning that research is done to understand what intelligence is, and,
  - Al as engineering technologies meaning about its design and the building of computer systems (dominant way).





## Symbolic AI vs. Connectivism AI (Neural Network or Machine Learning)

- Symbolic AI programs knowledge consisting of words or phrases (the « symbols ») along with rules that allow to perform a task. Inspired by mathematical logic and the way people describe their thoughts process. It relies on humans to create rules that reflect expert knowledge of a particular domaine. E.g. Cyc expert system (trying to capure « common sense » knowledge).
- Connectivism AI: Inspired by statistic and probablity theory. AI researchers developed numerous algorithms that enable computers to learn from data. In 2012, a Torontobased research team created an algorithm named AlexNet that won the ImageNet Large Scale Visual Recognition Challenge (Prof. Geoffrey Hinton at UofT). The year 2012 showed the commercial potential of supervised machine learning. AI started being used as a marketing hook.



- Al has controversial epistemological and philosophical understandings of what constitutes intelligence.
- Problematic model of rationality of AI projects: which she understands to mean that the human mind has precedence over the body failing to account for the culturally and socially situated nature of intelligence and favoring a disembodied form of AI. With the rise of robotics physical embodiment has precedence over cultural embodiment.
- To make AI less male dominated.

# Alison Adam's Feminist Critiques of Al

#### Prototyping Feminist Knowledge-Based Systems (FAI)

#### Adam with Brazilian master's student Chloe Furnival:

 Developed a feminist legal expert system aimed to compile feminist jurisprudence on issues of gender discrimination in the UK. It was premised on the fact that the burden of proof rests on women to show their rights had been violated in a gender discrimination case.

#### Adam with British master's student Maureen Scott:

 Developed a feminist computational language expert system which aimed to support the understanding of gendered communication between people of distinct backgrounds (race, class, ability, etc.). The goal of the system was to repair in a meaningful way misunderstandings in communication between men and women.

#### Adam's Reflexive Process

These two feminist expert systems were full of unresolved contradictions.

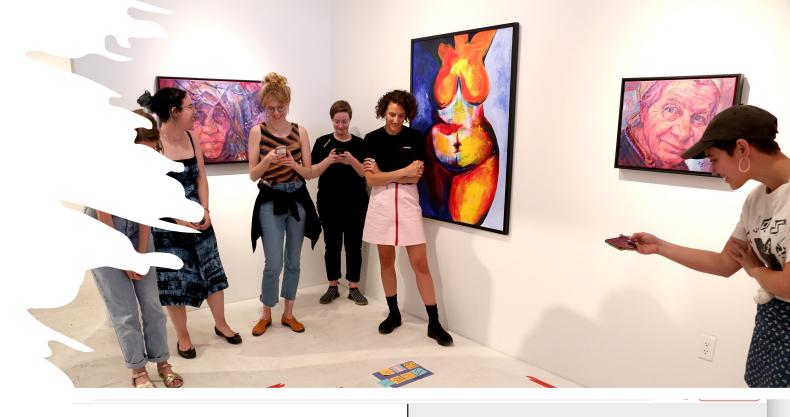
Replicating some of her own critiques of symbolic AI: Especially the disembodied and unsituatedness of the knowledge inputs in the system and the decision that came out as a result.

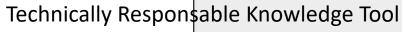
Paraphrasing Audre Lorde's statement that you can't use the master's tools to demolish the master's house, Adam believed that feminist AI can be used tactically to "make a few scratches in the masonry" (1998, p. 70).

### Current trends shaping FAI through a typology

#### FAI as model:

- Model 1: Feminist expert systems as elaborated above;
- Model 2: FAI of the neural networks type (or machine learning) concerned with data and datasets that nourish algorithms.
  - Data feminism (D'Ignazio and Klein, 2020)
  - Feminist Data Manifest-No (Cifor et al., 2019)
  - Caroline Sinder Feminist Data Set



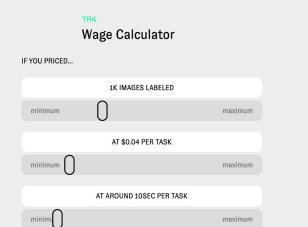


Our calculator, a mathematical provocation, helps show how underpriced data labeling or data training tasks are. This calculator focuses on a worker's time and payment towards entire workdays and a living wage, as opposed to pricing a bunch of tasks in aggregate. We aim for a living wage, and our living wage focuses on Washington State, where Amazon is headquartered.

Methodology

Process

Essay





#DNL16 · Charlotte Webb: WHAT IS A FEMINIST AI? Possible Feminisms, Possible Internets

553 vues 27 juin 2019 Disruption Network Lab

CHI 2010: HCI For All

April 10-15, 2010, Atlanta, GA, USA

#### Feminist HCI: Taking Stock and Outlining an Agenda for Design

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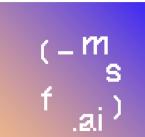
#### FEMINIST CHATBOT DESIGN PROCESS: QUESTIONS FOR THE CONCEPTUAL DESIGN PHASE

The aim of the following questions is to deepen how you think about the values you will be embedding in your chatbot during the conceptual design phase. These questions aim to make your chatbot better by ensuring it doesn't knowingly or unknowingly perpetuate gender inequality. These are based on Shaowen Bardzell's Feminist Human-Computer Interaction (2010) and the IEEE's Ethically Aligned Design (2016).

## We use design to sustain, heal, and empower our communities, as well as to seek liberation from exploitative and oppressive systems. Principle 2 We center the voices of those who are directly impacted by the outcomes of the design process. Principle 3 We prioritize design's impact on the community over the intentions of the designer.



Community Programs Al Projects Support About ~



#### Reimagining AI for everybody

Feminist AI™ works to put technology into the hands of makers, researchers, thinkers and learners to amplify unheard voices and create more accessible AI for all.

We create spaces where intergenerational BIPOC and LGBTQIA+ womxn and non-binary folks can gather to build tech together that is informed by our cultures, identities and experiences.

We engage with intersectional feminism to spotlight ou stories, inventions, designs and leadership, and to co-

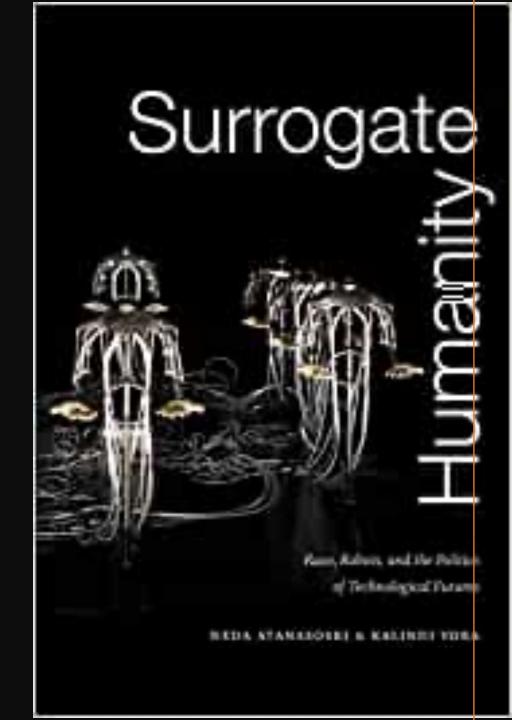
### FAI as design (most popular way of understanding FAI)

- FAI as design
  - In the realm of "doing"
  - It often means that "intersectional feminists" are designing AI.

    Based on the assumption that the gender, race and other identities of the designers will have an impact on the development of AI.
  - Based on feminist HCI + design (justice) principles

## FAI as science (the question of intelligence)

- Focuses on research that aims to understand "intelligence" from feminist perspectives.
- Surrogate Humanity: Race, Robots, and the Politics of Technological Futures Neda Atanasoski and Kalindi Vora argue that there is no such thing as "feminist intelligence".
- They conclude that FAI comes from a technoliberal desire to be inclusive.
  - "if we define feminism as a decolonizing project, instead of a liberal inclusive one, such that feminism politically seeks to disrupt the categories of use, property, and self-possession rather than redress through inclusion, then perhaps we might provocatively say that there need not be such a thing as a feminist intelligence (2019, p. 196). "
- The only reference that questions FAI.



New Models, New Ways of conceiving AI that correct for historic inequities and bring social programs + policies fit for the 21st century.

### Incubating Feminist AI: <From Paper to Prototype to Pilot>

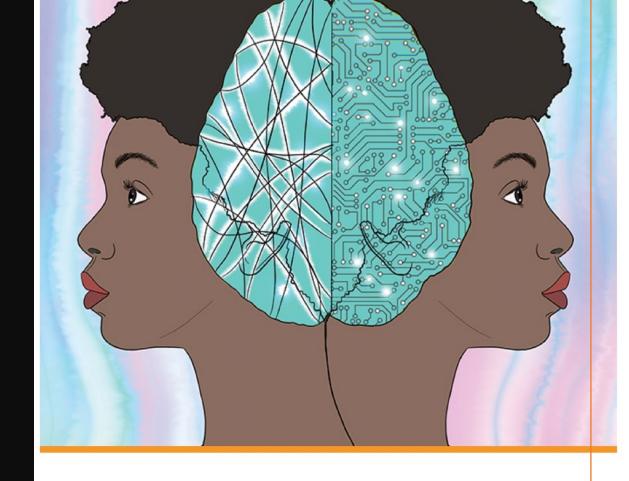
Call for Multidisciplinary teams from the Global South

FAI as (international development) policy

- No feminist artificial intelligence policy strictly speaking
- FAI has started being taken seriously thanks to funding allocation by the Canadian government (IDRC) towards FAI in the global South.
- Feminist AI Research Network (f<a+i>r): first initiative of its kind to articulate FAI through the lens of international development (or FAI4D) and receive 2 million CAD for its project: "From Paper to Prototype to Pilot" (Sep. 2021 to Sept. 2024).
- The premise at the heart of f<a+i>r project is that systemic gender, racial and intersectional bias of current AI systems are developed in the North and then exported in the South.
- Keep an eye on the project. Their call for proposal say they are looking for designing: national ID systems, benefits allocations, land tenure and writing AI policies which respects gender equality (SDG5).
- Question: How has FAI come to be seen as a responsable or appropriate technology for the development of gender equality and alleviating poverty in the global South? (banking the unbanked leading to more FinTech, sharing information and tracking future migrants, etc.)

#### FAI as Discourse

- At times, FAI as discourse follows the trend of "AI will fix this" meaning that AI is seen as a solution to social problems.
- The discourse around FAI renders AI palatable and accessible to feminists. This is likely one of the reasons why the discourse around FAI remains so positive, hopeful and at times even utopian.
- FAI makes grand claims about an anticipated, but yet to be realized, emancipatory potential.
  - Renata Avila from f<a+i>r suggests: FAI "reframe[s] the discourse around AI, and bring it closer to the hands and minds of women and girls".
  - Neema Iyer from Pollicy.org in Uganda say: "FAI refer to how feminist movements in Africa can critically engage, discuss and envision a feminist future under different AI and data governance models".



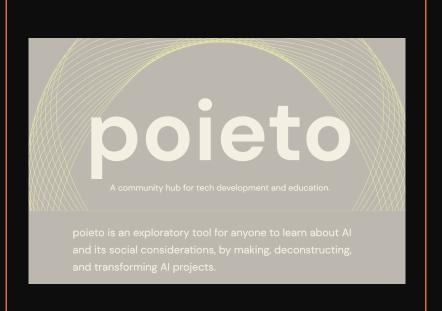
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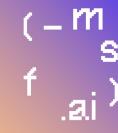
#### AFRICAN WOMEN IN ARTIFICIAL INTELLIGENCE

As human existence revolves more and more around technology, and the distinction between offline and online...

#### FAI as Culture

- Build on the theoretical framework of technology as culture exemplified by Judy Wajcman thesis that "technologies bear the imprint of the people and social context in which they developed" (Wajcman, 1991, p. 22). (Tech and society are mutually constituted)
- Embody the belief that changing cultural norms in Al and society, will lead to FAI.
- The art and design collective feminist.ai based in Los Angeles created a tool called Poieto a cultural Al tool to facilitate the integration of culture as a key design consideration. Culture here refers as much to the culture of the makers of Al, to the culture of the users and to the greater societal context in which Al tools are developed.





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## Conclusion: A few Observations

- The FAI typology allows to enrich the plural histories of AI and is a way to write back feminist history into AI.
- 1) The term feminist AI is powerful creating new imaginaries of what is possible.
- 2) Feminist AI might represent a hook for feminists to get interested in AI issues.
- 3) We may consider feminist AI as a form of resistance that can be discursive and practical to current AI systems.
- 4) Feminist AI is an intervention by feminists (academics, techies, practitioners, artists) wherever they are.
- 5) Feminist AI projects are coming as much from the global South as from the global North.
- 6) The category feminist AI is usually positively described in the practice and scholarship.