

HumaniTies and Artificial Intelligence

Edited by Freddy Paul Grunert

Co-editors Max Craglia, Emilia Gómez, Jutta Thielen-del Pozo

Reviewers Josephine Bosma, Pier Luigi Capucci Derrick de Kerckhove, Warren Neidich



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Envisioning a Feminist Artificial Intelligence

Christina Grammatikopoulou

First comes optimism, then comes realism, then the strive for change. It is a scenario we've seen play out several times in regard to new technology during the past decades – with the Internet, social media and lately with Artificial Intelligence. 'It will bring equality, diminish poverty, promote education and democracy!'' is the first enthusiastic response, followed by a realization that new technologies are quickly adapted to serve the status quo, and a subsequent struggle for securing social rights under the new reality. As the critical voices on Artificial Intelligence systems start to grow, our reflexes at anticipating the impact of technology on society have become quicker and hopefully we have become better equipped at harvesting its force towards a more positive outcome for minoritarian groups.

This chapter will focus on envisioning a Feminist AI, as a counterforce against algorithmic bias and oppression. After a look into controversial applications of AI, that reverberate sexist, racist and colonialist views, we will see how a feminist approach to AI systems can outline alternatives through experimental artistic projects.

Following an intersectional feminist approach seemed like the right path to tackle the issue of bias and fair design, as it helps us understand the multiple layers of oppression embedded into the algorithms, relating to gender, race, social class and sexual orientation. In other words, intersectional feminism as a standpoint in design and computer science, helps us deal with a complex set of social issues faced by minoritarian groups in society, not just gender based discrimination¹. On the other hand, the theories and projects examined here, are inscribed into a greater discourse regarding technofeminism, from Donna Haraway's 1985 *Cyborg Manifesto*, to 1990s Cyberfeminism, the legacy of Old Boys Network, as well as more recent feminist manifestos, online feminist activism and feminist attempts to redefine dominant HCI, design thinking and computer science.

Implicit bias or oppression?

Decades of representation of Artificial Intelligence in popular culture have cemented the stereotype that it refers to complex computing systems, humanoid in appearance but more intelligent than human beings and capable of making rational decisions. As a consequence, we still tend to think of AI systems as automated, untouched by human 103

¹ Lorde, Audre. 1984. "The Master's Tools Will Never Dismantle the Master's House." 1984. Sister Outsider: Essays and Speeches. Ed. Berkeley, CA: Crossing Press. 110-114. 2007.

hand and subsequently immune to human bias, thus reflecting an "objective" view of the world, even though they are in fact simple tools that make specific decisions based on data. This is yet another misconception -same as any conception about scientific and technological objectivity that ignores the systems of power underneath it. In Donna Haraway's words, "all Western cultural narratives about objectivity are allegories of the ideologies governing the relations of what we call mind and body, distance and responsibility."² The persisting stereotype about technological objectivity is a very harmful one; not only does it perpetuate discrimination, but it also discourages any questions asked against it.

One could find examples of such bias in almost all AI systems. In the field of computer vision, Joy Buolamwini was researching face recognition systems, when she found out that her face could not be read by the algorithm, which had no trouble recognizing a white mask or the sketch of a smiley face. This "blindness" towards women of colour was due to the fact that the algorithm had been trained mostly with datasets with pictures of white men. In the field of Natural Language Processing, Microsoft's Tay, a bot launched in the Twitter sphere in 2016 as an experiment in conversational understanding, was trained within less than 24 hours into using antisemitic, sexist and racist language by other Twitter users. In 2018, Amazon had to cancel an AI recruiting engine, when it became clear that the algorithm rejected all female candidates. Sentiment analysis tools have been found to label Asian people as asleep and Black men as angry. Voice assistants most commonly have a female voice and use flirtatious language as a reply to abusive remarks. Search algorithms propagate the stereotypes of teenage girls as sex objects and black teenage boys as menacing -as seen in the respective search results of girls in sexy clothes and black boys holding guns, in contrast to white teenage boys, who are presented as the "default" image of teenagehood. The disparity is even present in online marketing tools, with Google Ads saving their highest paying job advertisements for male users only.

These examples are far from isolated. When we look into AI apps, the same issue arises: systems that have been designed, built and implemented in a top down approach, from a position of power. These systems further marginalize minoritarian groups, reproducing stereotypes and invisibility wherever this is already the case, while making them more visible in cases of preventive policing and surveillance. Rather than treating people fairly, algorithms perpetuate existing prejudice, as well as systems of oppression faced by particular social groups. This is hardcoded into the technology, because algorithms "predict" answers based on the data being fed into them, ingrained with social inequities, demographic divisions and discrimination.

D'Ignazio and Klein talk about the "privilege hazard"³, the inability of people who have a good education, earnings and social background to recognize instances of oppression, due to lack of lived experience of this situation. Even when the aforementioned problems arise, the solutions proposed are usually in the form of a technical fix,

² Hampton, Lelia Marie, 2021. Black Feminist Musings on Algorithmic Oppression. In Conference on Fairness, Accountability, and Transparency 10, 2021, Virtual Event, Canada. ACM, New York, NY, USA.

³ Hampton, Lelia Marie, 2021. op. cit.

trying to "correct" the databases to wield better results rather than taking into account the voices of the social groups that are impacted by the bias. However, the problems do not just lay in the database. The whole system of AI, from the data used, to the people creating it and, most importantly, the economic and political powers that define its features, would need to change in order to make a difference.

When looking into the great picture of AI development, then the main issue seems more complex than simple "bias". It has been suggested that we are dealing with yet another colonialist view of the world, where big tech monopolies take over communication, infrastructure and political power, by controlling the "raw materials" of the digital age, the data resulting from human activity that they consider free for the taking. While accumulating wealth, they present themselves as "white saviours" that try to do good in underprivileged countries and communities⁴ with their innovative technologies, when in fact they are making decisions for these communities' future without their involvement.

As Hampton notes, talking about "implicit bias" when referring to these instances of algorithmic injustice is inaccurate, because "bias removes responsibility and makes it seem that the result is unintentional or not in bad faith, rather than an intentional byproduct of oppressive institutions", while downplaying the intention of the people and companies creating these tools, which generate further oppression to already underprivileged social groups⁵. For Hampton it is a clear case of oppression, which cannot be solved with quick fixes, like changing the datasets or hiring more workers from the social group affected. Adding diversity to the datasets does not change the fact that datasets are often generated without the explicit consent of the people who provide the data or by workers in precarious conditions. On the other hand, using a socially diverse workforce might seem like a noble idea, but it would be unrealistic to imagine a big tech company making substantial changes to a project just because a couple of workers have highlighted its discriminatory features. The underprivileged people are already the ones who are left with the responsibility of discovering and highlighting algorithmic injustice, so it would be unfair to leave them with the task of correcting it as well.

In short, big tech companies would never tackle the injustice that generates business opportunities and promotes business growth, or as Audre Lorde would phrase it, "the master's tools will never dismantle the master's house"⁶. We cannot escape algorithmic oppression without abolishing systemic oppression, as the two are indivisible⁷. Instead, we need to face the complex historical, political and economic issues that generate and perpetuate algorithmic oppression.

⁴ Hampton, Lelia Marie, 2021. op. cit.

⁵ D'Ignazio, Catherine, and Lauren F. Klein. Data Feminism. MIT Press, 2020.

⁶ Bardzell, Shaowen. 2010. Feminist HCI: Taking Stock and Outlining an Agenda for Design. CHI 2010, April 10-15, 2010, Atlanta, Georgia, USA.

⁷ Toupin, Sophie & Couture, Stephane, 2020: Feminist chatbots as part of the feminist toolbox, Feminist Media Studies, DOI: 10.1080/14680777.2020.1783802.

Situated knowledge and lived experience

This does not mean that we need to delay the prospect of a fair AI for an uncertain time in the future when we have managed to create a fairer society. Artificial Intelligence can be one of the battlegrounds as well as one of the communicative and practical tools towards equality. For this matter, it is critical to envision and introduce a feminist standpoint in the development of AI and machine learning.

But what would a feminist AI look like? In order to envision it, we can look into previous attempts to create feminist digital technology, from the 1990s Cyberfeminism until today. Feminist servers, feminist hacking, gynepunk, technoactivism, online safe spaces and cybersecurity manuals have served to show how we can rethink about digital technology based on feminist principles, with an intent to educate and empower interested parties. As science and technology are created from a specific location -social, ideological and disciplinary - a feminist approach would first ask who creates what, for whose benefit and at whose expense⁸. To adopt a feminist standpoint is to accept that all knowledge attempts are socially situated and select from those the ones that would be a more fitting starting point of knowledge⁹.

Donna Haraway has advocated for evaluating the context in the creation of knowledge. This would mean considering not only the knowledge that benefits those in power, but all kinds of knowledge created by different social groups. In Haraway's words, "Feminist objectivity is about limited location and situated knowledge, not about transcendence and splitting of subject and object. It allows us to become answerable for what we learn how to see"¹⁰.

Haraway's situatedness shifts the perspective from a singular approach to technology, society and history to a multiplicity of visions and approaches. This would mean looking into alternative epistemologies that relate to the people involved in each project. Tech designers and computer scientists should reject the elitist idea that the people who are supposed to benefit from these technologies do not understand what is best for them, and involve them in the research, design and development process. Within the context of AI Technology, situatedness, for example, could encourage a different process in the creation of datasets, shifting between Big Data and "small" data, taking account of how data relates to the systems of power and to how it may benefit or harm different social groups.

Haraway's idea of situated knowledge is further expanded by Hamilton into the idea of the lived experience of oppressed people, that results in knowledge production and a challenging of "the white supremacist capitalist cisheteropatriarchal hegemony". Black Feminism, as defined by Hampton, values people's lived experiences and focuses

⁸ Birhane, Abeba. 2020. Algorithmic Colonization of Africa. Scripted, 17:2, August 2020.

⁹ Baker, Sarah Elsie, 2018. Post-work Futures and Full Automation: Towards a Feminist Design Methodology. Open Cultural Studies 2018; 2: 540-552.

¹⁰ Sinders, Caroline, 2020. Feminist Data Set, Open Source Tool Kit. https://carolinesinders.com/wp-content/uploads/2020/05/Feminist-Data-Set-Final-Draft-2020-0526.pdf.

on the abolition of algorithmic oppression -rejecting the dominant lens altogether, regardless of whether it relates to race, gender or economic systems of oppression¹¹.

We are in fact dealing with a feminist, postcolonialist and anticapitalist perspective against algorithmic oppression. For one, to be involved in the process of AI development is to learn how to create your own technology tailored to your needs, in contrast to capitalism that encourages passive consumption by people who don't know how to grow their own food or to create the tools that they need. It also supports production at a smaller scale, possibly more sustainable as you would only waste the resources needed. At the same time, by empowering people to be involved in the development of the technologies that they need, they become self-sufficient and less prone to exploitation of their labour, data and resources by the colonialist powers of the digital age, the big tech companies and the countries that leverage their technological advances to expand their political influence. Through the process of education and development, AI Technologies become demystified and decolonized.

Lately, this has been a driving force behind feminist approaches to computer science and design. The goal is to create technologies with the end user in mind, that enrich the lives of social groups with different experiences and needs. For example, we talk about feminist HCI design and feminist design thinking, which not only counteracts the underrepresentation of women and minoritarian groups in design, but it also seeks to incorporate the idea of equity into the design of the algorithm¹². The idea is to try to implement feminist methodologies in order to question every aspect of the design process, from initial concept to the final product. There are multiple questions that are being tackled within the process of feminist design, such as the ethics of care, social reproduction and counteracting the effects of inequality, but also the issues of consent and technological emancipation.

Feminist AI for social change

Utopian though it may seem, the feminist approach is already being implemented in activist and artistic projects, showing how to think and implement AI solutions differently.

Far from the humanoid sci-fi visions, most of the artificial intelligence that we experience on a daily basis is neither strictly "artificial" nor "intelligence". For example, chatbots may have evolved to understand human language and respond accordingly, but if we take a closer look at their architecture and function, they don't seem so innovative. In fact, they are not different from "ELIZA", the conversational agent launched in 1964, or the 1970s text-based games that employ conversational "trees", where each reply you select takes you to the next "branch" of text, within a non-linear narrative.

¹¹ Haraway, Donna, 1988. "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective". Feminist Studies, Inc, pp.575-599.

¹² Haraway, Donna, 1988. op.cit.

Betânia was a chatbot launched in Facebook messenger, in order to help feminists organize against a planned amendment to the Brazilian constitution, that would criminalize abortion. In addition to its informative character, *Betânia* aided users in sending over 34,000 mails to MPs, effectively contributing to the downvoting of the bill. Another such bot with an activist aim is *acoso.online*, which provides practical information and advice to victims of revenge porn, such as the relevant legislation in each country and the steps to take. *F'xa*, a bot created by the *Feminist Internet*, is feminist both in design and content, presenting feminist ideas and principles in a fresh way, with memes and emojis.

However, if we take a closer look into these chatbots, we can hardly talk about "intelligent" systems, as they are all based on rule-based scripts, without machine learning, that is, without the option to learn from the users and adapt to different questions and scenarios. According to Sophie Toupin and Stephane Couture, this is a deliberate choice¹³. There is an imminent danger for these activist tools to be "hijacked" by antifeminist groups and be taught to reproduce the opposite ideas than the ones they were designed for. The lessons learned from Microsoft's *Tay* Twitter bot have not gone unnoticed by feminist designers, who prefer to use predetermined choices, built into the bot through a process of feminist design, even if this means that these chatbots offer little more than a "trendy" way of presenting a text, which could just as easily have been incorporated in a regular website.

Artificial Intelligence is often presented as a "black box", that is fed with data and provides predictions. As a consequence, it becomes hard to pinpoint the source of any problems that may occur, when we do not understand how the system works. This is why a number of artistic projects that deal with AI focus on the process, trying to show all steps involved, from the creation of datasets to predictions, while they also educate users on how to reproduce these technologies. Caroline Sinders' Feminist Data Set is an ongoing artistic project that interrogates every step of the AI process, from data collection and labelling, to the creation of a machine learning model, algorithmic training, implementation and the launch of a prototype¹⁴. The research framework for each step is intersectional feminist, seeking to wipe out any element of bias and exploitation. For example, the data used is aggregated in a consensual manner, by the community for the community. A "decolonized" data set means that minoritarian groups are being involved and consulted within the process of data harvesting, acknowledging that they can understand what is best for them -in contrast to the infantilizing approach used by big tech companies who design technologies for them without them. Moreover, people own their data within the project and are paid a fair amount for their contribution. Needless to say, his process takes a considerable amount of time and money, in stark contrast to the usual data sets, that are either generated involuntarily, by registering users' behaviour and preferences without explicit consent, or by precarious labourers that are paid a minimum wage for data labelling, in gig platforms like Amazon's

¹³ Hampton, Lelia Marie, 2021. op. cit.

¹⁴ Shipman, Matt. 2020. Can 'Feminist Design' save hiring algorithms from bias?, Futurity, February 10th, 2020. https://www.futurity.org/feminist-design-hiring-algorithms-bias-2276022/.

Mechanical Turk. This is why the propagation of the idea of ethical AI would be a slow process, substituting Big Data with "small" data, automation with deliberate consideration, and exploitation with consent.

Conclusion

It may not seem competitive market-wise, but a Feminist AI has its place within a technological future where people are increasingly concerned about securing their rights through legislation and seek ethical alternatives to exploitative technologies. Even with the aforementioned limitations, showcasing an intersectional feminist way of creating Artificial Intelligence, one that implicates communities in the process and respects individuals, introduces a different way of thinking, where AI is not viewed as some kind of black box or a blind judge, but a human creation that can be tailored to people's needs and rights.

To envision a Feminist AI is to question the ways in which technology can reproduce systemic oppression and then try to rebuild it with feminist principles, like consent, empowerment, knowledge building, sustainability, emancipation and free flow of information. Overall, a Feminist AI, expresses resistance to the colonialist and capitalist imposition of technology, going against the mindless exploitation of resources and people, while at the same time it provides minoritarian groups with the agency to learn and create their own technologies.

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* This chapter was written as part of my postdoc research at the Department of Balkan, Slavic and Oriental Studies at the University of Macedonia, under the guidance of professor Foteini Tsimpiridou.

Biography



Christina Grammatikopoulou, PhD, is an art historian and a postdoctoral researcher at the University of Macedonia, Thessaloniki. Her research focuses on technofeminism, gender performance and the aesthetics of digital activism. Her doctoral thesis (University of Barcelona) dealt with the (im)materiality of art based on performance and digital technology, while her subsequent publications explored diverse topics at the intersection of digital culture and visual arts. She has been an editor for the art journal Interartive and is currently a member of the artistic group Purple Noise.