



HOW TO BUILD FEMINIST AI

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WHY FEMINIST AI



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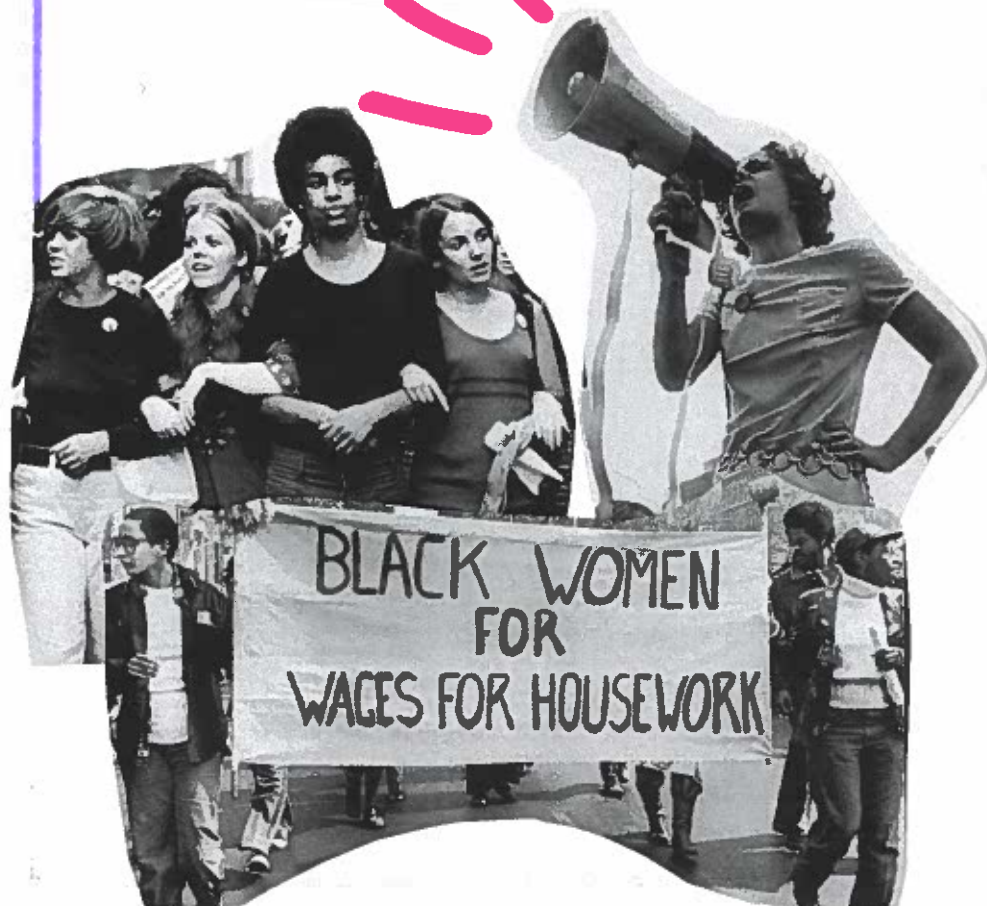
In addition, I would like to thank all of my peers in CMSTMM 720. Without their advice and support, as well as the time we spent working together throughout the semester, this project would not have been possible.

As shown on the cover of this zine, we already have some representative female cyborgs or AI characters, which reflect how people imagine various types of feminine intelligent agents in sci-fi movies or artworks. In the real world, with the development of AI technology, various types of AI assistants also gradually become part of our daily lives.



However, scholars also found that gender bias is a common problem in different stages of the development of AI [4]. When considering domestic AI assistants have entered a space deeply associated with traditional gender roles [3], it becomes urgent for us to imagine a feminist AI, which can change the gender bias reinforced by existing AI assistants.

In this zine, I will first briefly introduce the literature on gender bias of AI to situate this zine in this broader background. Second, theories of feminist AI, design justice and speculative futurities will be introduced as the framework to guide us to imagine alternative AI assistants. Finally, by focusing on domestic AI assistants in the context of feminist arguments of domestic labor, I will invite you to build a feminist domestic AI assistant together.



GENDER BIAS IN AI



Given that AI systems are trained on datasets derived from the real world, which remains predominantly under masculine hegemony, the emergence of gender bias within AI appears nearly inevitable. It is noted by Coeckelbergh [4] that gender bias can be manifested at all stages of AI development, including algorithm design and data (set) selection and processing. Nevertheless, Coeckelbergh does not attribute this bias to the intentions of developers or users but instead links it to specific ways in which technology interacts with societal and cultural dynamics.



Research has indicated that various AI applications are gender biased. Several studies have revealed instances of gender bias in machine translation [11], facial expression recognition [5], as well as virtual assistants based on artificial intelligence [1][2]. The domain of chatbots has also been identified to have gender stereotypes. According to Feine et al. [6], chatbots tend to convey a specific gender and are typically categorized as female chatbots. In addition, research indicates that users are more likely to invoke gender stereotypes when the AI system operates within a subject domain with gender stereotypes, such as mechanics [10]. Feminine gender cues are considered more competent and engender positive effects in situations such as the advice-giving system [11] and debt collection [8].



WHAT IS FEMINIST AI

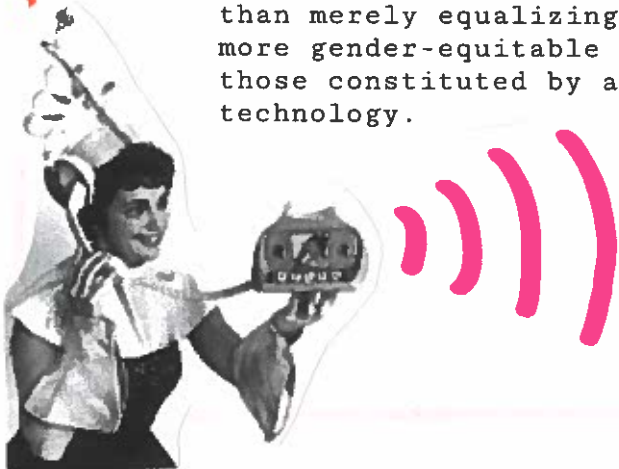


In 1980s, influenced by the conversation around feminist critiques of AI which are rooted in the turn toward constructivist within the philosophy and sociology of science and feminist science and technology studies (FSTS), British computer scientist and historian of science Alison Adam started criticizing AI from a feminist perspective. Her aim was to include gender, race, class, and power into the critique of AI [14].

The term "feminist artificial intelligence" firstly emerged in Adam's (1995) article Artificial Intelligence and Women's Knowledge, in which she asserted that there are two aspects for a different AI informed by feminism. First, the possibility of using traditional AI for feminist purpose. Second, feminism should be involved in AI [14].

Recent studies have given rise to methodologies for designing and identifying feminist AI from the development phase to the implementation phase. Wellner & Rothman [17] examine four approaches to address gender bias in AI systems. These approaches encompass ignoring any reference to gender, revealing the considerations that led the algorithm to decide, designing algorithms without bias, and involving humans in the process. Additionally, they emphasize a foundational feminist principle: "visibility matters", urging users and designers alike to remain vigilant regarding the potential for gender and racial bias in AI systems.

From the perspective of female-technology interaction, Johnson [9] has outlined four characterizations of feminist social relationships within feminist technologies: improving the conditions of women; focusing on gender equity; favoring women, rather than merely equalizing; constituting more gender-equitable relations than those constituted by a prior technology.



DESIGN JUSTICE



Given that most users of AI cannot have the opportunity to engage in the design phrase of AI, what can we do to produce alternatives of a feminist AI? In this zine, based on these two methods of design justice and speculative, I would like to invite you participate in the design of a feminist AI.

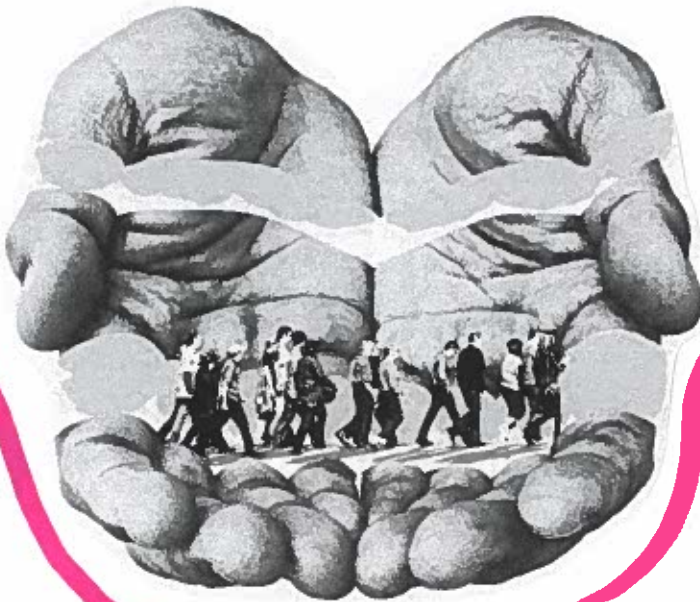


Design justice is a movement that challenges the role of scholars and universities in research that focuses on technology and design [7]. As a community-led movement, design justice prioritizes the voices of those most affected by the harms of technology—such as BIPOC communities, queer, disabled communities and so forth [7].



Here, "centering" emphasizes collaboration with communities rather than treating them as subjects of study [7].

Design justice focuses on developing non-exploitative solutions that rebuild our connection with the Earth and with each other, emphasizing the importance of collaboration, community, and collectivity [7].



SPECULATIVE FUTURITIES

Speculative futurities refer to a method in which individuals create fictional works—often, though not always, inspired by a prompt—to envision how the world or certain aspects of it might exist beyond present structural limitations [7].



When it works together with design justice, the latter offers a broader framework for speculative fiction to exist, while these futurities themselves create pathways toward justice without necessarily requiring the construction of new systems [7].

Through imaginative futurities, it is possible for us to reshape the power dynamics that both shape and arise from the interplay of bodies, emotions, technologies, and institutions [7].



WHY DOMESTIC LABOR



In the late 1960s, the idea that "domestic labor" should be theorized emerged as part of North American women's liberationists' critiques. As Lise Vogel [15] argues, necessary labor has two components. She called the first as the social component of necessary, which is the necessary labor that generates value equal to wages. This aspect is well discussed by Marx, while the second component is largely obscured in his argument. The second component, which is named by Vogel as domestic component of necessary labor or domestic labor, consists of unwaged work that sustains the daily and long-term renewal of the commodity labor power and the working class.



By defining domestic labor in this way, it became a concept specific to capitalism and detached from fixed gender roles, particularly the ideas that domestic labor is universal and inherently women's work.



If we frame domestic AI assistant as part of the latest development of domestic technology, it is valuable to learn about the impact of domestic technology on domestic labor.

Drawing on data from The Australian 1997 Time Use Survey, which offers detailed information on both the time allocated to housework and an inventory of household appliances, Bittman et al. [3] found that domestic technology rarely reduces unpaid household labor or significantly alters the traditional gender division of housework. They further argue that domestic appliances not only enter a space deeply associated with traditional gender roles but are also embedded with gendered meanings that influence their design and use. In fact, individuals partially express their gender identity through their everyday interactions with these technologies.



Currently, there are three popular domestic AI assistants: Amazon Alexa, Apple Siri and Google Assistant. Researchers have found that a system's name and branding play a significant role in shaping users' perceptions of an AI assistant's gender. Even when male voice options are available, users often refer to these systems as "she" (though the proportion of users choosing male voices remains unknown). Google Assistant, which has a female voice by default and delivers the most human-like responses, is still frequently referred to with object pronouns—likely due to its nongendered name [1].

POPULAR DOMESTIC AI



ALEXA

The design of the position and daily tasks of domestic AI assistant can be perceived from two aspects. On the one hand, it may change people's perception of the relationship between women and domestic labor. For example, when users regard it as natural and common to have Alexa as a virtual young female assistant to oblige our every command, the connection between women and obedience is reinforced, which also contributes to existing biases about women [16].



SIRI



On the other hand, the way domestic AI assistants are designed reflects human's expectation on labor and the desires projected onto a compliant service provider. Computerized servers also embody the cognitive and affective labor demanded of workers, especially women [13].

GOOGLE

IMAGINE



Given that household is such an important space for us to practice feminist and these popular domestic AI assistants potentially reinforce the gender bias, let us imagine an alternative version by drawing on the discussion of feminist AI and domestic homework.

As a current user or future user of domestic AI assistants, you can imagine how to design your AI assistant to make domestic labor not only visible but also detach its traditional connection with women. In addition, the way you interact with the AI assistant can also reflect how your family members would perceive the value of domestic and affective labor in your daily lives.

wow!

Here, I also provide you with a list of prompts to imagine this domestic AI assistant from the appearance to features. You could choose whether to follow them or not. Just enjoy the chance to contribute to this unique feminist AI!



- Name:
- Appearance: App/Robot/Other type:
- Voice:
- Relationships with you: Assistant/Companion/Family member/Other types:
- Tasks/Daily Routine:
- Interactive style: Mechanic/Humanized/Other type:
- In order to respond to the domestic labor contributed by my domestic AI assistant, I would: pay for it monthly/exchange labor with it/satisfy its needs/other type:



! Wow



of
to

Reference List

- [1] Abercrombie, G., Curry, A. C., Pandya, M., & Rieser, V. (2021). Alexa, Google, Siri: What are your pronouns? Gender and anthropomorphism in the design and perception of conversational assistants. *arXiv preprint arXiv:2106.02578*.
- [2] Adams, R., & Loideáin, N. N. (2019). Addressing indirect discrimination and gender stereotypes in AI virtual personal assistants: the role of international human rights law. *Cambridge International Law Journal*, 8(2), 241–257. <https://doi.org/10.4337/cilj.2019.02.04>
- [3] Bittman, M., Rice, J. M., & Wajcman, J. (2004). Appliances and their impact: the ownership of domestic technology and time spent on household work. *The British Journal of Sociology*, 55(3), 401–423. <https://doi.org/10.1111/j.1468-4446.2004.00026.x>
- [4] Coeckelbergh, M. (2020). Technology games/gender games. From Wittgenstein's toolbox and language games to gendered robots and biased artificial intelligence. In *Feminist philosophy of technology* (pp. 27–38). Stuttgart: JB Metzler.
- [5] Domnich, A., & Anbarjafari, G. (2021). Responsible AI: Gender bias assessment in emotion recognition. *arXiv preprint arXiv:2103.11436*.
- [6] Feine, J., Gnewuch, U., Morana, S., Maedche, A., Law, E. L.-C., Følstad, A., Granmo, O.-C., Papadopoulos, S., Brandtzaeg, P. B., Araujo, T., & Luger, E. (2020). Gender Bias in Chatbot Design. In *Chatbot Research and Design* (Vol. 11970, pp. 79–93). Springer International Publishing AG. https://doi.org/10.1007/978-3-030-39540-7_6
- [7] Floegel, D., & Costello, K. L. (2022). Methods for a feminist technoscience of information practice: Design justice and speculative futurities. *Journal of the Association for Information Science and Technology*, 73(4), 625–634. <https://doi.org/10.1002/asi.24597>
- [8] Guo, Y., Liu, D., Yin, X., & Xu, S. X. (2021). "She is not just a computer": Gender role of AI chatbots in debt collection. In International Conference on Information Systems, ICIS 2020 - *Making Digital Inclusive: Blending the Local and the Global* (International Conference on Information Systems, ICIS 2020 - Making Digital Inclusive: Blending the Local and the Global). Association for Information Systems.

Reference List

- [9] Johnson, D. G. (2010). Sorting out the question of feminist technology. *Feminist technology*, 6.
- [10] McDonnell, M., & Baxter, D. (2019). Chatbots and Gender Stereotyping. *Interacting with Computers*, 31(2), 116–121. <https://doi.org/10.1093/iwc/iwz007>
- [11] Pfeuffer, Nicolas; Adam, Martin; Toutaoui, Jonas; Hinz, Oliver; and Benlian, Alexander, "Mr. and Mrs. Conversational Agent - Gender Stereotyping in Judge-Advisor Systems and the Role of Egocentric Bias" (2019). *ICIS 2019 Proceedings*. 2
- [12] Prates, M. O., Avelar, P. H., & Lamb, L. C. (2020). Assessing gender bias in machine translation: a case study with google translate. *Neural Computing and Applications*, 32, 6363–6381.
- [13] Schiller, A., & McMahon, J. (2019). Alexa, Alert Me When the Revolution Comes: Gender, Affect, and Labor in the Age of Home-Based Artificial Intelligence. *New Political Science*, 41(2), 173–191. <https://doi.org/10.1080/07393148.2019.1595288>
- [14] Toupin, S. (2024). Shaping feminist artificial intelligence. *New Media & Society*, 26(1), 580–595.
- [15] Vogel, L. (2000). Domestic Labor Revisited. *Science & Society (New York)*. 1936), 64(2), 151–170.
- [16] Walker, T. (2020). "Alexa, are you a feminist?": Virtual Assistants Doing Gender and What That Means for the World. *The iJournal: Graduate Student Journal of the Faculty of Information*, 6(1), 1–16. <https://doi.org/10.33137/ijournal.v6i1.35264>
- [17] Wellner, G., & Rothman, T. (2020). Feminist AI: Can We Expect Our AI Systems to Become Feminist? *Philosophy & Technology*, 33(2), 191–205. <https://doi.org/10.1007/s13347-019-00352-z>