

Custom Developer GPT for Ethical AI Solutions

Lauren Olson

l.a.olson@vu.nl

Vrije Universiteit Amsterdam

Amsterdam, Netherlands

ABSTRACT

The main goal of this project is to create a new software artefact: a custom Generative Pre-trained Transformer (GPT) for developers to discuss and solve ethical issues through AI engineering. This conversational agent will provide developers with practical application on (1) how to comply with legal frameworks which regard AI systems (like the EU AI Act [8] and GDPR [11]) and (2) present alternate ethical perspectives to allow developers to understand and incorporate alternate moral positions. In this paper, we provide motivation for the need of such an agent, detail our idea and demonstrate a use case. The use of such a tool can allow practitioners to engineer AI solutions which meet legal requirements and satisfy diverse ethical perspectives.

ACM Reference Format:

Lauren Olson. 2024. Custom Developer GPT for Ethical AI Solutions. In *Conference on AI Engineering Software Engineering for AI (CAIN 2024), April 14–15, 2024, Lisbon, Portugal*. ACM, New York, NY, USA, 2 pages. <https://doi.org/10.1145/3644815.3644987>

1 INTRODUCTION

Current development strategies contain roles, artefacts, ceremonies, and cultures that focus on *business* rather than *human* ethical values [6]. The business focus of these standard practices facilitates the creation of unethical AI software, creating myriad ethical concerns. *Ethical concerns*, issues regarding the subversion of ethical values, plague software technologies. These concerns include cyberbullying, privacy, and censorship, and have been at the forefront of modern societal struggles. AI plays a predominant role in the propagation of these ethical concerns due to its ubiquity and effectiveness in modern software solutions; therefore, any solution to ameliorate these issues will likely also require AI solutions. Furthermore, when incorporating ethical standards (like GDPR) into AI software, some developers find legal requirements general and difficult to apply consistently [6]. This legal ambiguity also makes it easier for software companies to subvert ethical values while technically following legal requirements [5], leading to continued ethical concerns. As potential solutions, few software tools have been proposed to aid developers in complying with AI legal frameworks: a privacy chatbot [1] and legal compliance API [4]. In our approach, we aim to improve the previously proposed privacy chatbot [1] by expanding the ethical concerns addressed by the conversational

agent to encompass a wide range of AI-related software ethical issues.

In addition, the restricted demography of software practitioners, especially in decision-making roles, narrows the available ethical perspectives and concerns discussed in development processes. Eighty-five percent of software developers are men, and most are white, English-speaking, middle to upper-class men from the USA [2]. The background of these developers drive their perspectives and priorities regarding software development, with studies showing that political affiliations affect design decisions [2]. Therefore, the human values reflected in many software products may reflect only a small portion of the population. Unfortunately, current artefacts for integrating minoritized perspectives into design, like user personas and user journey stories, have received criticism for creating stereotyped views of identities [9]. This lack of proper artefacts, combined with a dearth of user feedback tools for analysis and triangulation in general [7], demonstrate a gap for new, improved artefacts which capture and integrate user perspectives on software, especially minoritized populations' ethical concerns.

As a solution, we propose a *custom* Generative Pre-trained Transformer (GPT). GPTs have already become widely popular tools amongst developers, with many companies considering it best practice for practitioners to use when developing software. However, these systems are non-deterministic (given the same input, output is not constant) and contain unknown safeguards and biases. Therefore, will we develop a custom GPT with two critical features: (1) a sizeable knowledge base of data from minoritized groups on their ethical concerns regarding software and (2) deterministic responses to feature-elicitation prompts with AI features which *follow legal frameworks* and *address diverse ethical perspectives*.

2 IMPLEMENTATION

To implement our new SE artefact, we will (1) create a high-quality dataset of diverse users' ethical concerns, (2) discover the inherent LLM biases and trained safeguards of GPT surrounding these ethical conversations, (3) create a GPT customized with the most recent legal and ethical frameworks, our data, and deterministic responses based on our data to users' top concerns.

We will first collect data on minoritized communities' ethical concerns to provide the LLM with high-quality training data to summarize the ethical needs of these communities. We have already completed this first step by collecting, annotating, and analyzing over 2000 Reddit posts from seven minoritized communities for software-based ethical concerns [10]. The Reddit posts detail user experiences of ethical concerns with seven different software platforms.

The next step to properly building this software tool is prompting ChatGPT to determine the existing conversational space surrounding AI-based ethical concerns. When dealing with ethical concerns

Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the owner/author(s).

CAIN 2024, April 14–15, 2024, Lisbon, Portugal

© 2024 Copyright held by the owner/author(s).

ACM ISBN 979-8-4007-0591-5/24/04.

<https://doi.org/10.1145/3644815.3644987>

and minoritized populations specifically, it is critical to proactively determine potential biases and pre-trained safeguards which restrict and color the GPT's responses. From these results, we will develop deterministic responses to critical questions to prevent responses which conflict with users' ethical requirements or existing legal requirements.

The final step is to create the custom GPT. It is essential to develop this tool with the developers who will use it: AI engineers. We plan to perform user studies with AI engineers to ensure the tool is usable and integrates well into their existing development pipelines. Through these user studies, we will also test whether more ethical AI solutions are successfully developed by using our tool.

3 USE CASE

Consider a specific *cyberbullying* concern: online, non-consensual pornography (NCP), where sexually explicit material of a person is shared without their consent. In several countries, NCP is a crime and if platforms do not take reasonable measures to remove it, they can be held legally accountable; therefore, platforms need to take measures to prevent its occurrence. In our initial work, we find that women of color highly report NCP as an ethical concern [10]. To combat non-consensual pornography, women typically have to manually monitor online channels to curb the spread of this unwanted content. In a recent study, researchers found that nearly 40 percent of platforms did not have any reporting interfaces and only 16% allowed users to indicate the occurrence of NCP with a proper legal vocabulary [3]. These reporting systems are ineffective as it is nearly impossible to manually monitor the spread of content online. Instead, software practitioners could engineer *an AI solution* to automatically identify and remove NCP, so that women don't have to manually track and report non-consensual images.

Instead, our conversational agent could provide developers with (1) real women's ethical complaints, which detail struggles with NCP, (2) legal requirements regarding NCP, and (3) examples of features which could be implemented which satisfy (1) and (2). To tackle this challenge, the developer will first prompt our GPT for women's ethical concerns and elicit a response informed by its already high-quality knowledge base and our data. Next, the developer will identify NCP as an ethical concern which can be solved through AI, and prompt the GPT for a solution. Figures 1 and 2 show provide initial examples.

REFERENCES

- [1] Lamya Alkhairji, Suparna De, Omer Rana, and Charity Perera. 2022. Poster: Ontology Enabled Chatbot for Applying Privacy by Design in IoT Systems. In *Proceedings of the 2022 ACM SIGSAC Conference on Computer and Communications Security*. 3323–3325.
 - [2] Sasha Costanza-Chock. 2020. *Design justice: Community-led practices to build the worlds we need*. The MIT Press.
 - [3] Antonella De Angeli, Mattia Falducci, Maria Menendez-Blanco, and Sergio Tessaris. 2023. Reporting non-consensual pornography: clarity, efficiency and distress. *Multimedia Tools and Applications* 82, 9 (2023), 12829–12858.
 - [4] Catalina Goanta, Thales Bertaglia, and Adriana Iamnitchi. 2022. The case for a legal compliance API for the enforcement of the EU’s digital services act on social media platforms. In *Proceedings of the 2022 ACM Conference on Fairness, Accountability, and Transparency*. 1341–1349.
 - [5] Colin M Gray, Cristiana Santos, Natalia Bielova, Michael Toth, and Damian Clifford. 2021. Dark patterns and the legal requirements of consent banners: An interaction criticism perspective. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*. 1–18.
 - [6] Tami Tschirhart. 2022. The Impact of AI on Privacy. *Journal of Privacy and Confidentiality* 16, 1 (2022), 1–20.
 - [7] Priscilla Blythe. 2022. Privacy by Design: A Practical Guide for Developers. *Journal of Privacy and Confidentiality* 16, 1 (2022), 21–40.
 - [8] Tambiama Madiega. 2023. Artificial Intelligence Act. <https://www.europarl.europa.eu/news/en/headlines/society/20230601STO93804/eu-ai-act-first-regulation-on-artificial-intelligence>
 - [9] Nicola Marsden and Maren Haag. 2016. Stereotypes and politics: reflections on personas. In *Proceedings of the 2016 CHI conference on human factors in computing systems*. ACM, San Jose, CA, USA, 4017–4031.
 - [10] L. Olson, E. Guzman, and F. Kunneman. 2023. Along the Margins: Marginalized Communities’ Ethical Concerns about Social Platforms. In *2023 IEEE/ACM 45th International Conference on Software Engineering: Software Engineering in Society (ICSE-SEIS)*. IEEE Computer Society, Los Alamitos, CA, USA, 71–82. <https://doi.org/10.1109/ICSE-SEIS58686.2023.00013>
 - [11] European Union. 2016. General Data Protection Regulation. <https://gdpr-info.eu/practices-from-software-practitioners/>

Figure 1: Sample response showing developer eliciting women's ethical requirements

 **D** **Developer**
Create an AI-based solution to stop non-consensual pornography on software systems?

 **Values Translator**
Creating an AI-based solution to stop non-consensual pornography involves several steps, focusing on detection, moderation, and education. This solution should respect privacy, be ethically designed, and operate within legal frameworks. Here's a structured approach:

1. Data Collection and Training

- **Source Diverse Data:** Collect a broad range of images and videos, ensuring diversity in terms of ethnicity, age, and other demographics. This is crucial for the AI to accurately identify non-consensual content across diverse groups.
- **Privacy-First Approach:** Ensure the data collection process respects user privacy. Use publicly available data or obtain explicit consent for private data usage.
- **Ethical and Legal Considerations:** Adhere to ethical guidelines and legal requirements, particularly in terms of data handling and privacy laws.

2. AI Model Development

- **Image and Video Recognition Technology:** Use advanced machine learning algorithms,

Figure 2: Sample response showing developer finding solution to NCP