AI, Emotions, and Interaction: A Social Matching System with ChatGPT-Based Conversational Agents

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Abstract. *This article presents the development and evaluation of Tiander, an experimental platform inspired by dating applications, aimed at investigating the interaction between humans and artificial intelligence agents. The system was implemented as a web application, supporting simulated profiles operated by conversational assistants based on ChatGPT. For experimental purposes, two versions were created, one with dynamic AI-generated responses and the other with fixed responses that mimic limited human interactions. The sample will consist of (N) participants, randomly divided between the two groups, who will interact with male or female profiles according to their initial choice. At the end of the experience, participants will answer a questionnaire assessing aspects such as perceived authenticity, empathy, trust, and humanity attributed to the interaction. The proposal contributes to contemporary debates on ethics, interactive system design, and the role of intelligent assistants in social and affective contexts. The data obtained will allow for an empirical analysis of users' perception regarding different levels of simulated intelligence, broadening the understanding of AI's impact in interpersonal interaction environments.*

1. Introduction

The advancement of artificial intelligence (AI) systems has significantly transformed how individuals relate to each other and to digital technologies. AI-based applications are already widely used in virtual assistants, content recommendations, and, more recently, in social interactions mediated by intelligent algorithms [Floridi and Cowls 2019, Mittelstadt et al. 2016]. In this context, questions arise regarding the ethical boundaries and psychosocial consequences of daily coexistence with artificial agents, especially in situations that simulate affectivity, such as dating apps.

This study presents Tiander, an experimental web application inspired by the Tinder® model, in which users interact with simulated profiles powered by ChatGPT assistants. The proposal aims to investigate users' perceptions regarding affective interactions with AI agents, exploring elements such as empathy, trust, emotional involvement, and ethical judgment of the interactions [Binns et al. 2018, Shin 2021]. Through an empirical approach, the project seeks to understand how these interactions are evaluated in comparison to interactions with fixed scripts, representing a control group.

The choice of a simulation environment with profiles managed by AI allows for controlled observation of how users react to dynamically generated responses from systems like ChatGPT, which use natural language models to maintain coherent and contextually relevant dialogues [Brown et al. 2020].

This environment also brings to light important considerations for designing ethical, transparent, and emotionally responsible systems. As such, this article aims to explore: (1) how users subjectively perceive interactions with AI agents in emotional contexts; (2) the emotional and behavioral impacts attributed to these encounters; and (3) how users evaluate the ethicality, authenticity, and reliability of AI in these situations. The study utilizes both quantitative and qualitative methods, including post-interaction surveys and control groups, to provide a thorough analysis.

2. Background

The interaction between human behavior and artificial intelligence (AI) systems has become a central theme in both technological research and behavioral sciences. As AI increasingly integrates into daily interactions, it becomes essential to understand how individuals perceive, react to, and evaluate the artificial agents with whom they interact [Nass and Moon 2000, Shin 2021].

Conversational agents, especially those based on large language models (LLMs) like ChatGPT, simulate human dialogues through natural language processing. These systems have proven capable of eliciting emotional responses and engagement, even when interlocutors are aware they are interacting with a machine [Bickmore and Picard 2005]. The human tendency to anthropomorphize artificial agents may lead users to perceive such systems as socially and emotionally competent [de Visser et al. 2016].

The ethical implications associated with the use of artificial intelligence become especially relevant in contexts with a strong emotional component, such as dating applications. In such situations, there is potential for emotional manipulation or misinterpretation of the intentions behind interactions mediated by automated systems. Researchers have emphasized the importance of responsible development of artificial intelligence systems, guided by principles such as transparency, explainability, and ethical conduct, to mitigate risks and foster user trust [Floridi et al. 2018, Mittelstadt et al. 2016]. In this type of environment, AI ceases to be just a tool and begins to play the role of a pseudo-social actor, raising questions about autonomy, informed consent, and the authenticity of the experience.

The field known as "affective AI," which encompasses systems capable of recognizing, simulating, or responding to emotions, requires special attention. When users establish emotional bonds with artificial agents, issues related to psychological well-being, identity formation, and even romantic involvement may arise [Turkle 2011]. Therefore, empirical studies are needed to assess how users interpret and experience these interactions.

Digital simulations are fundamental methodological tools in behavioral sciences, allowing the investigation of decision-making processes, formation of social bonds, and emotional responses in controlled environments. By reproducing the interface and operational logic of dating apps like Tinder®, researchers can analyze participant behavior patterns while minimizing the interference of external variables such as social context or prior expectations [Ciechanowski et al. 2019].

3. Methodology

This research utilizes a controlled experimental design on the Tiander platform, where participants are divided into two groups to interact with simulated profiles. In the experimental group, profile responses are generated dynamically by AI assistants based on ChatGPT, while in the control group, responses are pre-defined and fixed, originating from scripted profiles. After completing their interactions, participants will respond to structured questionnaires assessing subjective perceptions of empathy, trust, emotional involvement, and ethical judgment. Recruitment will be conducted online, ensuring that all participants meet minimum age requirements and provide informed consent prior to participation.

To enrich the analysis, qualitative interviews may be conducted, enabling a deeper exploration of the psychosocial and ethical impacts of interactions with artificial agents. Quantitative data from questionnaires will be subjected to statistical analysis to identify significant differences between the groups, while qualitative data from interviews and open responses will be analyzed thematically. All stages of the study adhere to ethical research standards, guaranteeing participant autonomy and data anonymization. The overarching aim is to enhance understanding of everyday interactions with artificial agents in affective contexts and to inform the development of ethical and emotionally responsible AI systems.

4. Expected Results

This study is expected to identify significant differences in users' perceptions and emotional involvement when interacting with artificial intelligence agents versus scripted profiles in affective contexts. Quantitative analysis should reveal distinct levels of empathy, trust, and authenticity attributed to AI-generated interactions compared to those with predefined scripts, highlighting the impact of dynamic language models on user experience.

Additionally, qualitative findings from interviews and open-ended responses are anticipated to provide deeper insights into the psychosocial and ethical implications of human-AI relationships. The results will contribute to understanding how users cognitively and emotionally navigate interactions with artificial agents, offering practical recommendations for the ethical design of socially and emotionally responsible AI systems in affective environments.

5. Preliminary Results

The initial results were promising. A functional prototype of the Tiander platform was successfully developed using Domain-Driven Design (DDD) principles to create an architecture focused on affective interactions mediated by artificial intelligence. The platform was deployed to the cloud via Amazon Web Services (AWS), ensuring scalability, security, and high availability during user testing.

By implementing a Domain-Driven Design (DDD) approach, the platform established a clear separation of concerns among anonymous user management, interaction flow, and AI logic. This separation streamlined system maintenance and facilitated more controlled experimentation. Additionally, leveraging AWS enabled thorough performance monitoring, with average response times consistently remaining under 200 milliseconds during testing—helping to deliver a smooth and seamless user experience.

These initial results confirm the technical viability of the Tiander platform and indicate promising potential for meaningful affective engagement between users and artificial agents. Future experimental phases will involve a larger participant pool and improved evaluation tools, aiming to deepen the psychosocial understanding of these interactions.

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