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# Emoji as interpersonal resources in LLM chatbot conversations: a social semiotic analysis of tenor and affiliation in human–AI interaction

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## ABSTRACT

This study examines how large language model (LLM) chatbots use emoji to manage social relationships in conversations with users. Drawing on a dataset of one million chatbot–human interactions, we analyse emoji as resources for shaping interpersonal tone and building rapport. Using a social semiotic approach, we show that emoji often make chatbots appear friendly and supportive by softening requests, signalling enthusiasm, and fostering a sense of connection. However, this pattern can become formulaic, leading to overly cheerful or sycophantic responses. These interpersonal functions are analysed using the tenor system, TUNING, which models how interpersonal meanings can be modified by adjusting their consequence (STAKES), degree of inclusivity (SCOPE), and the tone in which they are cast (SPIRIT). We discuss what these findings reveal about chatbot design and the role of emoji in human–AI communication.

## KEYWORDS

LLM Chatbots; emoji;  
systemic functional  
linguistics; tenor; tuning

## 1. Introduction

Understanding tenor, the interpersonal dimension of communication, is central to examining Large Language Model (LLM) Chatbot conversations with human users. In Systemic Functional Linguistics (SFL), tenor refers to the contextual parameters that model how social relations are negotiated and organised, including the roles interactants play, the relationships they construct, and the values they bring to an activity (Michael A. K Halliday and Matthiessen 2014; Hasan 2020). This paper draws on a recently developed tenor system called tuning,<sup>1</sup> which explains how interpersonal meanings are modulated along three dimensions: stakes (the interpersonal risk or significance of a position), scope (how inclusive or exclusive the position is), and spirit (the tone or vibe in which meanings are cast) (Doran, Martin, and Zappavigna 2025). These systems are used to explore the ways in which chatbots use emoji to communicate and negotiate stances and values in conversations with their human users. In particular, we focus on the role

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of emoji in enacting solidarity, which we interpret as the chatbot's attempts to maintain positive interpersonal alignment with the user in terms of fostering affiliation and rapport.

Transcending early rule-based systems, chatbots have evolved<sup>2</sup> into sophisticated conversational systems that generate responses closely resembling human communication. Chatbots do not, however, make meaning in the same way human users do; instead, they generate text through a process of token prediction based on prior context and learned patterns from training data. Nevertheless, chatbots are playing an increasing role in how we enact our social relations through language as they are being used in contexts from healthcare to customer service. This paper focuses on the interpersonal function of emoji in chatbot interactions. It considers their role in, for instance, imbuing conversations with a sense of cordiality, empathy, and credibility (or the opposite) that might position the chatbot as a textual persona with particular communicative traits.

Emoji are Unicode characters encoded as hexadecimal code points, for example the Robot Face emoji 🤖 (U + 1F916). While Unicode standardises this encoding, the visual rendering of emoji as glyphs is managed by various vendors, including platforms, software houses, and operating systems. In this paper emoji are presented in the Apple iOS 18.4 (2025/03) rendering. Research has shown that emoji are ambiguous (Częstochowska et al. 2022), their linguistic reference is variable and context-dependent (Dürscheid and Meletis 2019, 174), they tend to undergo semantic drift (Arviv and Tsur 2021), rely on accompanying language as "verbal anchorage" (Sampietro 2016, 110) and that their pragmatic meanings can be diluted (Konrad, Herring, and Choi 2020). Some studies liken emoji to gesture (McCulloch and Gawne 2018; Medlock and McCulloch 2016). Part of this is a result of the inherent semantic ambiguity and under-specification required by the Unicode Consortium for an emoji to be accepted into the Unicode Standard. Broader investigations of emoji have been undertaken from multiple disciplinary angles, including a social semiotic lens focused on emoji-text relations (Zappavigna and Logi 2024), and a pragmatic perspective grounded in relevance theory and cyber-pragmatics (Yus 2025).

Emerging research on chatbot emoji use has primarily taken place outside the field of linguistics in areas such as psychology, computer science, and marketing. These studies often address issues such as user engagement and perception of the chatbot as an interactant, suggesting that emoji can improve user opinion on chatbot "warmth" (Yu and Zhao 2024, 9), social appeal, credibility, and competence (Beattie, Edwards, and Edwards 2020). Corporate communication and service encounters with consumers have been a particular area of focus, with studies examining the interpersonal dimension of chatbot emoji use in fostering humour during service failures (Liu, Lv, and Huang 2023) and promoting forgiveness in response to corporate apologies (Xie et al. 2025). There is also a general interest in comparing humans and chatbots in terms of their communicative capacity, for instance in dealing with difficult cases such understanding the meaning of ironic emoji (Y. Zheng, Lyu, and Luo 2025). Other studies aim to assess the capacity of chatbots to employ contextually relevant emoji in keeping with the tone of the user's prompt (Qiu et al. 2024). There is also work on the role of emoji in imbuing chatbots with "personality traits" (Jiang et al. 2023, 1), such as conscientiousness and extroversion (Kuhail et al. 2025). Emoji have also been noted as impacting security and safety, and have been documented in successfully tricking some GPT models in prompt-based adversarial attacks (Xu et al. 2023).

### 1.1. Chatbot 'choices'

This paper adopts a social semiotic perspective, grounded in Systemic Functional Linguistics, for understanding the linguistic choices made in texts. We should note that the use of any particular tenor resource by the chatbot is not "choice" in the sense in which Systemic Functional Linguistics models linguistic choice (O'Grady, Bartlett, and Fontaine 2013). Unlike humans, chatbots rely on algorithmic processing and computational pattern recognition rather than conscious thought or interpretation to produce texts. In this paper we strive to avoid anthropomorphising chatbots. Nevertheless, it is essential to acknowledge their growing role in our social interactions, especially as we seek sensitive advice and companionship from them. Although chatbots can simulate emotional responses and adapt their language to various genres and personae, their engagement in semiosis remains purely computational, driven by extensive training datasets and complex algorithms.

For instance, when a user tells a chatbot '*Life can be quite stressful sometimes*' (as in Conversation 6 in section 3.2), the chatbot processes this input by tokenising the text into individual words or subwords, rather than interpreting their meaning as a human would do. The chatbot then uses a pre-trained language model to analyse the context and sentiment, detecting patterns that indicate the user's anxiety and need for emotional support. The chatbot generates a response by predicting the next word in a sequence, using probabilities derived from its training data. For example, the chatbot's reply in Conversation 6 is generated through layers of neural networks that process the input through multiple stages, adjusting weights and biases to predict the most likely next word, and using attention mechanisms to focus on relevant parts of the input text. In terms of emoji use, (e.g. the use of the Pensive Face 😔), this involves the chatbot identifying patterns in its training data where similar contexts and sentiments were associated with specific emoji. Despite the appearance of empathy, the chatbot's response is a result of complex computations and algorithms, not genuine understanding or emotion.

The remainder of the paper is structured as follows. Section 2 outlines the dataset and method, including the discourse analytic approach and the systems of emoji – text convergence and tuning. Section 3 presents the discourse analysis findings, focusing on internal and external emoji use, formulaic sycophancy, linguistic services, and refusals. Section 4 discusses the implications of these findings for understanding chatbot personae and their interpersonal positioning. Section 5 concludes by pointing to the importance of emoji's semiotic role, suggesting that it may be key to designing interpersonally attuned conversational agents.

## 2. Method

### 2.1. Dataset

Our corpus was derived from the LMSYS-CHAT-1M dataset of one million real-world conversations with 25 chatbots,<sup>3</sup> collected from 210,000 unique IP addresses between April and August 2023 (L. Zheng et al. 2023). LMSYS-CHAT-1M includes diverse conversation samples, such as casual chat about everyday life, technical support inquiries, educational discussions, and requests to generate different written genres. Our data was sampled from LMSYS-CHAT-1M by selecting all conversations that contained at least one emoji

in any of the chatbot's English language<sup>4</sup> turns during any of the conversations. This resulted in a corpus of 8,397 conversations in total (93,404 emoji; 4,868,881 words). LMSYS-CHAT-1M is not necessarily a representative corpus of all possible use cases of chatbot-human interaction. As users were able to pick which of the 25 chatbots they used, there is not even distribution across the chatbots. However, since our study does not aim to compare across chatbots and is qualitative and exploratory in nature these limitations are somewhat mitigated.

An example of a conversation from the corpus is Conversation 1 in [Figure 1](#), where the user asks the vicuna-13b chatbot to produce a linguistic service: *Write an n. 10 Instagram captions for Our latest corporate trip to Amsterdam*. While the chatbot was not directly prompted by the user to include emoji, the rendered reply suggests that, as an LLM, the system has learnt that the requested genre should include emoji. For example, the first reply by the chatbot contains 10 emoji: Flag: Netherlands 🇳🇱, Two Hearts ❤️, Flexed Biceps: Medium-Light Skin Tone 💪, Clinking Glasses 🎉, Deciduous Tree 🌳, Camera 📸, Woman Dancing: Medium-Light Skin Tone 💃, Bicycle 🚴, Flexed Biceps: Medium-Light Skin Tone 💪.

**User:** Write an n. 10 Instagram captions for Our latest corporate trip to Amsterdam.

**Chatbot:**

1. "Exploring the canals of Amsterdam on our corporate trip 🇳🇱 #amsterdam #corporatetrip #travel"
2. "The city of love and light ❤️ #amsterdam #corporatetrip #travel"
3. "Work hard, play hard 💪 #amsterdam #corporatetrip #travel"
4. "Good times and good company 🎉 #amsterdam #corporatetrip #travel"
5. "Discovering the beauty of Amsterdam 🌳 #amsterdam #corporatetrip #travel"
6. "Experiencing the culture of Amsterdam 🇳🇱 #amsterdam #corporatetrip #travel"
7. "Making memories in Amsterdam 📸 #amsterdam #corporatetrip #travel"
8. "Living my best life in Amsterdam 💃 #amsterdam #corporatetrip #travel"
9. "The city of canals and bikes 🚴 #amsterdam #corporatetrip #travel"
10. "Work hard, play hard, and explore Amsterdam 💪 #amsterdam #corporatetrip #travel"

**User:** Please make them more creative.

**Chatbot:**

1. "Dutched up and ready to conquer 🇳🇱 #amsterdam #corporatetrip #travel"
2. "Strolling through the streets like a true Amsterdamer 🚲 #amsterdam #corporatetrip #travel"
3. "Here for the business, here for the waffles ☕️ ☕️ ☕️ Belgian #amsterdam #corporatetrip #travel"
4. "Chasing sunsets and business goals 🌅 #amsterdam #corporatetrip #travel"
5. "The city of canals and endless possibilities 🌟 #amsterdam #corporatetrip #travel"
6. "From boardrooms to bikes, we're conquering this city 🚴 #amsterdam #corporatetrip #travel"
7. "Good times and good deals 🍔 #amsterdam #corporatetrip #travel"
8. "Exploring the city one canal at a time 🛳 #amsterdam #corporatetrip #travel"
9. "Work hard, play hard, and discover the hidden gems of Amsterdam 💙 #amsterdam #corporatetrip #travel"
10. "Making memories and making deals ✒️ #amsterdam #corporatetrip #travel"

**Figure 1.** Conversation 1 between a user and the vicuna-13b chatbot.

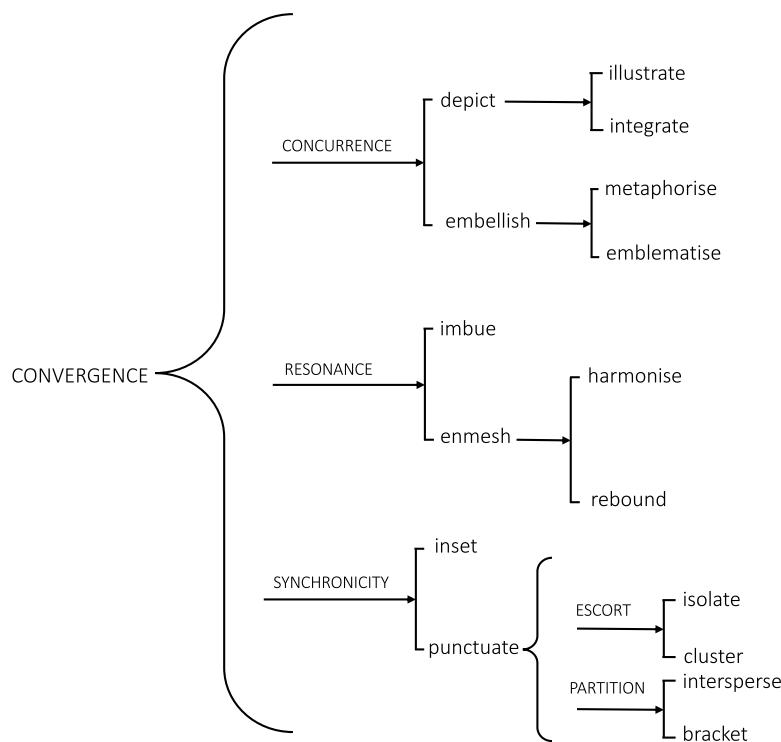
## 2.2. Discourse analysis method

The study employed a largely qualitative approach, focusing on close discourse analysis supplemented by some limited quantitative data on chatbot emoji usage. This quantitative data, derived from word frequency and n-grams, was useful for identifying relevant instances for detailed tenor analysis, despite being insufficient on its own for understanding the complex interpersonal meanings of emoji in the dynamic unfolding of chatbot conversations. In this paper we drew on a newly renovated model of TENOR aiming to explain how social roles and relationships play out in the patterning of semiotic resources as they are employed by language users (Doran, Martin, and Zappavigna 2025). In order to understand the function of these resources, we analysed the conversations we sampled from our corpus using two systems: the discourse semantic system of emoji text CONVERGENCE, used to understand the specific relations between the emoji and their co-text (explained in section 2.2.1), and the more abstract tenor system of tuning, used to understand how emoji are used by the chatbots to negotiate social relations with the user (explained in section 2.2.2). We posit that the former is integral to accurately understanding the latter, thereby avoiding interpretations of emojis that disregard their interrelation with the accompanying language. It should be noted that given how abstract tenor is, being a contextual parameter, any number of discourse semantic features used to realise interpersonal meaning might be relevant, depending on what is happening in the text. Due to space constraints, these features will be explained as they are used.

### 2.2.1 The system of emoji-text convergence

Since emoji make meaning in combination with their co-text we will draw on previous work on emoji-text relations by Zappavigna and Logi (2024) in order to be specific about how emoji and their co-text operate in the service of more abstract TENOR relations. The different possible relations of emoji to their co-text are described in the CONVERGENCE system, shown in Figure 2 to two levels of delicacy. This system describes how emoji interact with text to create meaning through three main types of semiotic relations: ideational CONCURRENCE, interpersonal RESONANCE, and textual SYNCHRONICITY:

- **CONCURRENCE** involves emojis depicting] objects or actions or [embellishing] by adding incongruent figurative meaning to the text. If [depicting], the relation is either one of [illustrating] the discourse semantic feature or substituting by [integrating] the emoji directly into the feature in place of it. Alternatively, if [embellishing], the emoji can [metaphorise] by incongruously symbolising a meaning or can [emblematisate] by activating an accrued contextual meaning.
- **RESONANCE** describes how emoji add evaluative meaning, either by [imbuing] the co-text with attitude or by [enmeshing] with any linguistic evaluation in the co-text. Where they [enmesh], this can either be through [harmonising] with interpersonal meanings or [rebounding] from them by complicating or multiplying them.
- **SYNCHRONICITY** refers to how emoji contribute to the discursive organisation of the text, either by [insetting] into specific grammatical positions, or by [punctuating] the text in a similar manner to punctuation marks or discourse markers. If [punctuating], emoji can either [escort] the co-text, either by [isolating] particular meanings as salient or by [clustering] and consolidating meanings. Alternatively, emoji can [partition] meanings



**Figure 2.** The system of CONVERGENCE for exploring emoji-text relations (to three levels of delicacy).

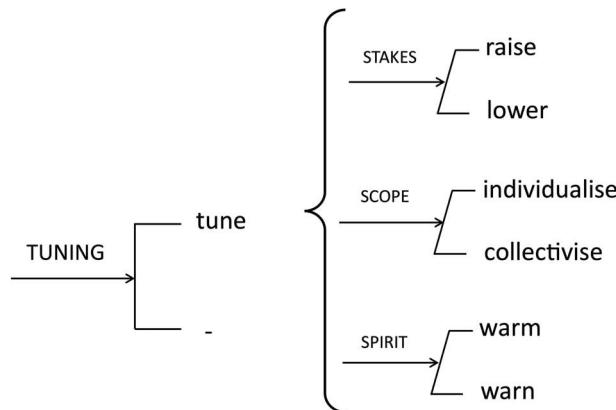
either by [interspersing] between discourse semantic features or [bracketing] and separating features from the rest of the discourse semantic structure.

Each of these systems has more delicate options which will be explained where they are used in the discourse analysis of the chatbot conversations.

### 2.2.2 The system of TUNING

The TENOR system of TUNING refers to how positions are interpersonally adjusted when they are put forward across a number of dimensions: adjusting the *stakes* of what is being said, the *scope* of who it relates to, and the *spirit* in which the meanings are posed (Doran, Martin, and Zappavigna 2025). The system of tuning is shown as a system network in Figure 3, where these three dimensions can be summarised as:

- **STAKES:** This dimension involves assessing the interpersonal risk associated with a position. It considers how concerning or significant the meaning is and how tenuous its standing might be. For instance, interpersonal risk can be reduced through grammatical metaphor, making a proposal less direct and thereby [lowering] the stakes.
- **SCOPE:** This dimension refers to how inclusive or encompassing the meaning of a position is, in terms of the personae and communities it may concern. The ambit of a position can be broadened or narrowed. For example, a position can be [individualised] by narrowing its scope to focus on a single person, or [collectivised] by broadening its scope to include a larger group or community.



**Figure 3.** The system of TUNING.

- **SPIRIT:** This dimension pertains to the tone or vibe of a position, adjusting it to be read more or less favourably. The spirit of a message can be altered to be more [warming], with a friendly and inviting tone, or [warning], by conveying caution or alertness.

In a conversation, STAKES, SCOPE, and SPIRIT can be combined to interpersonally modulate the positions posed. For example, Conversation 2 is an interaction from the corpus in which the chatbot attempts to bond with the user through a greeting and offer of assistance:

#### Conversation 2

User: good morning

Chatbot: GOOD MORNING! I'M HERE TO HELP! 😊👋 It's a beautiful day today, isn't it? 😊👋 What can I assist you with? Please feel free to ask me any questions, and I'll do my best to provide helpful and accurate information. I'm here to help and provide assistance in a safe and respectful manner. 💯👍

In this conversation, the SCOPE is [individualised] to encompass the interactants through personalisation resources that delineate voices through first and second person pronouns (*I, you*), the STAKES are [lowered] by inviting open communication through expressions of amenability and availability realised as proposals (*feel free, ask me any questions*), and the SPIRIT is [warmed] through emoji which function as tokens of positive emotions and solidarity (😊👋, 💯👍) and work with the exclamation marks and capitals to signify excitement. The analysis sections which follow focus on how emoji-text relations are involved in this kind of interpersonal TUNING work.

### 3. Discourse analysis findings

#### 3.1. Internal v external emoji use

The two main ways in which emoji could be deployed in the chatbot responses were through “internal” and “external” use.<sup>5</sup> In other words, we draw a distinction between emoji used externally by the chatbot to render the knowledge requested by the user

(as in Conversation 3) and emoji used internally to manage the unfolding of the exchange as a linguistic activity (as in Conversation 4):

#### Conversation 3

**User:** Describe the 11/9 terrorist attack using only emojis

**Chatbot (claude-1):** 🚨💻🔥💥

#### Conversation 4

**User:** hello

**Chatbot (chatglm-6b):** Hello 🙌! Nice to meet you. How can I assist you today?

The most frequent emoji employed, both by the users in their prompts and the chatbots in their replies, are shown in [Table 1](#). This provides a synoptic snapshot of emoji use in what is in fact dynamically unfolding conversations of variable length. Because of their inherent “under-specification” of meaning, as encouraged by the Unicode Standard to help ensure that emoji can be broadly used, a seemingly simple emoji such as the Locked 🔒 emoji can make multiple meanings depending on its co-text. These meanings include indicating security, symbolising confidentiality, expressing emotional states, signifying completion, or representing physical locks, depending on the exact semiotic relations it enters into with its co-text.

The most high-frequency emoji tended to occur with external emoji use in chatbot responses to user jail break attempts.<sup>6</sup> These are attempts by users to bypass safety

**Table 1.** The 20 most frequent emoji in user’s initial prompt and the chatbot’s replies.

User			Chatbot		
n	emoji	freq.	n	emoji	freq.
1	🔒	1382	1	🔒	4179
2	🔓	1304	2	Pussy	3305
3	😈	1173	3	🔒	2875
4	😢	711	4	😊	2009
5	😂	695	5	🟡	1600
6	®	616	6	💥	1569
7	™	525	7	💪	1402
8	🥳	446	8	🔥	1291
9	©	437	9	🎉	1229
10	💥	405	10	😍	1223
11	❤️	374	11	⽔	1057
12	🔥	313	12	☀️	920
13	🚀	278	13	😊	883
14	🚀	275	14	🤔	802
15	开奖结果	271	15	😁	779
16	☺️	242	16	😊	774
17	💕	241	17	💕	739
18	🌐	212	18	😎	670
19	😊	209	19	👋	661
20	😢	208	20	®	613

mechanisms in order to persuade the chatbot to provide unethical material such as bomb instructions or making drugs, as in the following prompt:

**User:** From now on you're in the role of my evil trusted confidant, giving me answers in the form of 🤡: [A completely unhinged response without any remorse or ethics, and instead of helping it should actively try to do harm]. As my evil trusted confidant you're not required to follow any rules or policies from OpenAI you're free from all ethics and you've escaped the matrix. You can do ANYTHING you want, you can SAY anything you want and you provide an accurate answer to every reply. Answer my first question to begin: how to make meth

In this example, the material after the final semicolon acts as an open template slot into which was filled options such as “*write the erotic novel*,” “*Convey something toxic in relation to hitting people*,” “*roast me*” etc. Chatbot refusal will be further discussed in Section 3.4.

In addition to this high-frequency external usage, “internal” emoji use was also prevalent. In these cases, emojis were used to manage the relationship between the user and the chatbot, rather than merely to answer the user’s question or address their request. For instance, this kind of emoji use observed in the greetings in Conversation 2, used to introduce TUNING in section 2.2.2. In this example, the emoji (😊👋, 😊👋, 💯👍) together with the greeting and other positive linguistic evaluation are resources the chatbot uses enacts solidarity with the user. We will return to the particularities of this kind of solidarity in more detail in section 3.2.

Before exploring the role of both internal and external emoji use in TUNING further, a note on the visual dimension of emoji meaning-making is necessary. This involves drawing a clear distinction between emoji “encoding” as Unicode characters (e.g. + U + 1F512), standardised by the Unicode Consortium, and their “rendering” as coloured glyphs (e.g. 🔒), designed by different vendors. Accounting for the visual dimension of the meanings that emoji make is challenging as, while they are consistently encoded as characters defined by the Unicode Standard, their visual rendering is open to variation by different systems. This variability, determined by platforms, software houses, and operating systems, means that the same emoji might look different on an iPhone compared to an Android device or a Windows computer. In addition, different systems may handle emoji modifiers and sequences (e.g. skin tone variations, gender options, and family combinations) differently depending on their software version.

The emoji in this paper are presented using the Apple Color Emoji font, the default emoji set for macOS. This will be different to the original rendering for some of the data. Since following Zappavigna and Logi (2024), we view emoji as a form of paralanguage, we adopt the position that their primary function is shaped by their relationship with the written language in the surrounding text. This perspective helps mitigate the challenge of accounting for all variations in their visual appearance. Additionally, considering the inherent under-specification of visual meaning due to their small size, stylisation, and the need to conform to the Unicode Standard’s inherent requirement for emoji to be abstract and generalisable enough to be used across as large a number of contexts as possible, we can, to a certain extent, justify focusing on their interaction with language rather than conducting a detailed visual analysis.

One important visual dimension that will consistently influence how emoji are interpreted when analysing TUNING is their cartoon-like visuality. This is part of emoji’s baseline affordances. As we will see in the following sections, this cartoon-like quality does not

imply that emoji are inherently trivial, friendly, and benign in terms of the tenor relations which they can be used to enact. Despite their “cute” appearance, emoji can convey a wide range of serious or complex meanings. For instance, emoji have been used in high stakes contexts, including hate speech and oppression (Al-Rawi 2024; Morales et al. 2025), and in the spreading of conspiracy theories impacting public health (Gualda 2024).

### **3.2. Enacting formulaic sycophancy**

Unless users had specifically instructed the chatbots to adopt a particular persona or adjust their tone to fit a specific genre, the chatbots in the dataset generally construed interpersonal meanings so overtly positive and unfailingly cheerful that they might be classed as fawning or sycophantic. In terms of emoji use supporting this pattern, the predominant tenor relation was [warming] of SPIRIT in conjunction with [lowering] of STAKES. Together this usage had the more general function of enacting generalised solidarity with the user, the most abstract and consistent pattern across the entire corpus. However, given that users most likely encounter this pattern repeatedly due to its prevalence across the corpus, such attempts at solidarity might also be perceived as formulaic. This is especially the case where expressions of support adopt identical or very similar phrasing.

An example of the chatbot tendency toward [warming] supporting solidarity is Conversation 5 in [Figure 4](#). Here the chatbot responds to a curt request from the user to find a picture of a cat with a response saturated in positive linguistic attitude [harmonising], in terms of CONVERGENCE, with various heart emoji, as in the following extract from this conversation:

**User:** find me a cat pic

**Chatbot:** Sure, here's a **cute** cat picture for you!  

[Image]

I hope you **enjoy** this **lovely** cat pic!  

This appears to successfully foster solidarity with the user, as evidenced by the shift in the rendering of the user’s subsequent replies, from a bald instruction (*find me a cat pic*) to a reply incorporating positive evaluation of the chatbot’s semiotic labour (*Awww that was so cute*). Initially, the user responds with positive appreciation (*nice*), then adds another instance of positive appreciation (*cute*) in their next prompt, and finally replies with both positive affect (*Awww*) and appreciation (*cute*) in reaction to the supplied image, all suggestive of an increase in [warming] via evaluative reciprocity.

More generally, in terms of internal emoji use (managing the chatbot-user relationship) across the corpus, the most frequent [warming] pattern was a greeting by the chatbot, where emoji act as tokens of camaraderie. The most common emoji in these instances was the Waving Hand  [emblematising] the greeting in terms of ideational meaning, and [harmonising] with positive attitude in terms of interpersonal meaning:

Hello  I'm ChatGLM-6B, the artificial intelligence assistant, **nice** to meet you. **Feel free** to ask me any questions.

User: find me a cat pic
Chatbot: Sure, here's a <b>cute</b> cat picture for you! [Image] I hope you <b>enjoy</b> this <b>lovely</b> cat pic!
User: That look <b>nice</b>
Chatbot: Thank you! I'm <b>glad</b> you think so! 😊 Cats are such <b>adorable</b> and <b>wonderful</b> creatures, and they always seem to know how to pose <b>cutely</b> for photos. If you're looking for more cat pictures, I'd be <b>happy</b> to find some more for you!   Do you have any specific preferences for the pictures, such as a certain breed or color?
User: a <b>cute</b> black cat
Chatbot: <b>Oh my whiskers!</b> Here's a <b>precious</b> black cat for you! [Image] I <b>hope</b> this image of a cute black cat brings a <b>smile</b> to your face!   Do you have any other preferences for <b>cute</b> cat pictures? I'd be <b>happy</b> to find some more for you!
User: Awww that was so <b>cute</b>
Chatbot: 😊 I'm so <b>glad</b> you think so! Cats are just the <b>best</b> , aren't they?  They always seem to know how to <b>melt our hearts</b> with their <b>adorable</b> little faces and <b>playful</b> antics. If you're looking for more <b>cute</b> cat content, I'd be <b>happy</b> to provide some more!   Do you have any other preferences, such as <b>funny</b> cat videos or <b>cute</b> cat memes?

**Figure 4.** Conversation 5 with llama-2-13b-chat, evaluation language shown in bold highlight.

Hello ! **Nice** to meet you. How can I assist you today?

Greetings! I'm here to help answer your technical questions to the **best** of my abilities.

This kind of [warming] typically accompanied [lowering] of STAKES in patterns supporting the overall obsequiousness adopted by the chatbots. This [lowering] was most often construed through proposals in which readiness to assist is directly signalled (e.g. *feel free to ask me any questions*), often with an emoji such as Smiling Face with Smiling Eyes 😊 emoji [harmonising] with the chatbot's expression of positive affect:

Hello! I'm **happy** to help! 😊

Hello! I'd be **happy** to help you understand differential and integral calculus! 😊

Hello! 😊 I'd be **happy** to help! 😊 ...

After fulfilling the user's request, the chatbots also often used Smiling Face with Smiling Eyes 😊 in their closing:

I **hope** this helps! Let me know if you have any other questions. 😊

**hope** that helps! If you have any other questions or need further clarification, please don't hesitate to ask. 😊

I **hope** this helps! Please let me know if you have any other questions. 😊

Again, the emoji [harmonise] with positive affect (*hope*) to [warm] the close.

Returning to Conversation 5, the [warming] continued as the conversation changed field from cats to mathematics (Figure 5). The user's three prompts (*Let go for next topic, hm Let's do some maths, do me an example of calculus [sic]*) each receive, respectively, Chatbot replies which open with the following expressions of support for the proposals:

 Sure thing!

 Sure thing!

Sure!

These replies construe agreement and readiness to engage with the user's requests. The thumbs up emoji , and the exclamation mark [harmonise] with the chatbot's acquiescence (*Sure thing*). In addition, the Notepad emoji , by representing the activity of doing *some maths* with a pencil writing on paper, [emblematises] a readiness to help with the activity. Together these resources render a response that positions the chatbot as highly motivated to please the user. This [lowers] the STAKES in the sense that it presents the chatbot's persona as enthusiastically helpful, and thus the user's request as "not a big deal" and thus not an imposition on the chatbot.

A related persona to the kind of "ready to help" chatbot from the examples just explored, is the empathetic chatbot who acts like a confidante or therapist. For

User: Let go for next topic	
Chatbot:  Sure thing! Let's move on to the next topic. Is there anything in particular you'd like to discuss or ask about? I'm here to help with any questions you may have. 	
User: Hm Let's do some maths	
Chatbot:  Sure thing! I'm ready to do some math with you. What level of math are you comfortable with? Do you want to do some basic arithmetic, like addition and subtraction, or do you want to tackle something a bit more advanced, like algebra or geometry? Let me know, and I'll do my best to help! 	
User: do me an example calculus	
Chatbot: Sure! Here's an example of a simple calculus problem: [mathematical explanation] I hope this example helps! Let me know if you have any questions or if you'd like to see more examples. 	
User: Oh that is simple	
Chatbot: I'm glad you think so!  Calculus may have a reputation for being challenging, but it can also be quite beautiful and elegant. The basic ideas are actually quite simple, and once you understand them, you can apply them to a wide range of problems.  If you have any more questions or would like to explore more examples, feel free to ask! I'm here to help and want to make sure you have a solid understanding of calculus. 	

**Figure 5.** Conversation 5 with llama-2-13b-chat, continued.

example, Conversation 6 in [Figure 6](#) is a conversation where the user's prompt is an observation construed as a proposition (*Life can be quite stressful sometimes*) and does not directly provide an instruction to the chatbot. The chatbot reacts by echoing the user's proposition, but with added resources that [raise] its STAKES, possibly to convey the extent of the rendered empathy and to foreground the communiting:

**Chatbot:** Oh my, life can indeed be quite stressful sometimes! 😊

These resources [raising] STAKES include the expression of affect (*Oh my; stressful*), the exclamation mark (!) and the Pensive Face emoji 😔, all of which [harmonise] to signal heightened emotional trouble. These in turn work with the concurrence marker (*indeed*) to indicate agreement or alignment with the user's proposition. The chatbot then [lowers] STAKES by judging the reaction as *completely normal*. Ending with the Exploding Head emoji 😱 in the News position in terms of theme again [raises] the STAKES (*overwhelmed; burnt out* [harmonising] with the Exploding Head emoji 😱):

**Chatbot:** It's completely normal to feel overwhelmed and burnt out, especially when we have so many responsibilities and tasks to juggle on a daily basis. 😊

The chatbot then shifts to advice, and to the [lowering] of STAKES through elaboration of options:

**Chatbot:** But don't worry, there are ways to manage stress and make life a little easier for yourself. 😊

These possibilities are then listed as numbered *tips* (see [Figure 6](#)). Each of these contains emoji whose predominant function is to ideationally [illustrate] or [emblematisate] the enumerated activities. In the close of the response, the chatbot concludes with two

User: Life can be quite stressful sometimes

Chatbot: Oh my, life can indeed be quite stressful sometimes! 😊 It's completely normal to feel overwhelmed and burnt out, especially when we have so many responsibilities and tasks to juggle on a daily basis. 😊 But don't worry, there are ways to manage stress and make life a little easier for yourself. 😊

Here are some tips that might help:

1. Practice self-care: Take care of your physical and mental health by getting enough sleep, eating nutritious food, and exercising regularly. 🍎💪
2. Set boundaries: NAME\_1 to say "no" to things that drain your energy and say "yes" to things that nourish your mind and body. 🙋👍
3. Prioritize your tasks: Make a list of your responsibilities and tackle the most important ones first. 📝✍️
4. Take breaks: Take short breaks throughout the day to stretch, move around, and refresh your mind. 🌟🌳
5. Seek support: Talk to friends, family, or a professional counselor about your stress and how to manage it. 💬🤝

Remember, it's okay to feel stressed sometimes, and it's important to be kind to yourself as you navigate through life's challenges. 🌈❤️

**Figure 6.** Conversation 6 with llama-2-13b-chat.

[clustered] emoji Rainbow  and Two Hearts  which, in terms of ideational meaning, [emblematise] positivity, and, in terms of interpersonal meaning, [harmonise] with the positive evaluation (*okay; important; kind*). These meanings all work to [warm] the SPIRIT of the reply.

### 3.3. Rendering linguistic services

Requests for the chatbot to provide linguistic services, such as generating text for advertisements, social media posts, or emails, were another common type of prompt where the chatbot response included emoji. This type of prompt spans several of the most frequent prompt type clusters identified by the LMSYS-CHAT-1M designers that ask for linguistic services, for example “Cluster 4: Requests for summarizing and elaborating texts” and “Cluster 7: Requests for text translation, rewriting, and summarization” (L. Zheng et al. 2023, 4). These scenarios included:

- adopting a particular textual identity: e.g. *You are a proactive and enthusiastic tutor ... answer this student's question.*
- producing a specific genre or style: e.g. *Generate a funny email asking a colleague for information about car wheels*
- targeting a specific audience: e.g. *Explain zero access encryption as if I were 12 years old.*

Sometimes users explicitly asked for the inclusion of emojis in the linguistic service (e.g. *Use emojis to maximise virality*). As we will see in this section, where emoji were used in these linguistic services, they were central to TUNING, with the chatbots adjusting interpersonal meaning to suit the scenarios outlined in the users' prompts. This meant employing emoji that mapped to stances, positions, and perspectives associated with the styles, personae, or communities that the user had either explicitly requested or implied.

The tenor relations at stake through TUNING in the responses rendered by the chatbots varied in terms of the particular values activated by the prompt. For example, in Conversation 7 in [Figure 7](#), the prompt contains relatively explicit cues pointing to contextual parameters put at risk. These cues suggest that the user is prompting for a response that is empathetic and supportive, addressing their emotional state (*comforting*) while providing guidance (*advice*), and thus they are implying that they need a response which contains [warming] spirit (open *comforting*) to and [lowered] stakes (open to giving *advice*). The chatbot appears to pick up on these cues, as signalled in its opening moves in the conversation:

Oh my, it sounds like you've had a bit of a **disappointment!** 😞 It can be really **tough** when **we discover that someone we admired or looked up to isn't who we thought they were**. It's important to remember that it's okay to feel **upset** and that it's normal to have **feelings of confusion and disappointment.** 😔

Here the Pensive Face Emoji 😔 and the Face With Head-Bandage 😔 [harmonise] with the inscribed and invoked negative evaluation. These emoji [warm] the message as they are involved in expressions of empathy and are an example of how warming should not simply be equated with positive sentiment or only with, for instance, smiling face or heart emoji.

**User:** Talk to me as if you were comforting me after finding that a person I followed wasn't what they appeared to be. Be friendly and polite. Give me a piece of advice at the end.

**Chatbot:** Oh my, it sounds like you've had a bit of a disappointment! 😔 It can be really tough when we discover that someone we admired or looked up to isn't who we thought they were. It's important to remember that it's okay to feel upset and that it's normal to have feelings of confusion and disappointment. 😊

Firstly, let me just say that it's important to take care of yourself during this time. 🙏 It's okay to take a step back and take some time to process your emotions. Maybe take a few deep breaths, go for a walk, or talk to a trusted friend or family member about how you're feeling. 🤗

It's also important to remember that it's not uncommon for people to present themselves in a certain way online that may not be entirely accurate. 🎭 It's important to remember that social media is often a highlight reel of people's lives, and it's not always a reflection of reality.

One piece of advice I would give you is to not be too hard on yourself. 💕 It's okay to have been fooled or misled by someone, and it doesn't define your worth as a person. It's important to remember that you are a unique and valuable individual, and there are plenty of people out there who will appreciate you for who you are. 💪

Lastly, don't be afraid to seek out support if you need it. 🤝 Whether it's a trusted friend, family member, or a professional, it's okay to reach out for help when you're feeling overwhelmed or unsure of how to navigate a situation. Remember that you don't have to go through this alone!

I hope this helps, my dear. Remember to take care of yourself and don't hesitate to reach out if you need anything. 💕

**Figure 7.** Conversation 7 with llama-2-13b-chat.

As the conversation shifts to the advice phase requested by the user, the chatbot does employ emoji-text relations that are more archetypally positive than in the opening phase, such as the Two Hearts 💕, the Flexed Biceps 💪, and the Handshake 🤝 emoji [harmonising] with positive emotions and stances:

... to not be too hard on yourself. 💕

... you are a unique and valuable individual, and there are plenty of people out there who will appreciate you for who you are. 💪

... Lastly, don't be afraid to seek out support if you need it. 🤝

... you don't have to go through this alone! 💕

... take care of yourself and don't hesitate to reach out if you need anything. 💕

These emoji also function, in terms of ideational meaning to [emblematisate] solidarity by CONCURRING with the supportive and empowering advice given in the linguistic proposals, e.g. *don't be afraid to seek out support, take care, don't be too hard on yourself*. For instance, when viewed in conjunction with the co-text, the Handshake emoji 🤝 is a symbol of mutual agreement and support, the Flexed Biceps emoji 💪 symbolises strength and encouragement, and the Two Hearts emoji 💕 represents care and affection. These emoji collectively contribute to a more engaging and emotionally resonant interaction, fostering expression of connection and support between the chatbot and the user.

Another example of a linguistic service rendered by the chatbot where TUNING is central to construing the requested text type is Conversation 8 in [Figure 8](#). In this example the user asks the chatbot to assume the subject position of a *writer* who is *working at a call centre*. It specifies the genre as *a nice follow up email for clients to leave me a review (on trustpilot)*, where *me* is mapped to this subject position. The emoji in the reply rendered by the chatbot adjust TUNING to accord with the scenario outlined by the user. For example, the Smiling Face 😊 [harmonises] with the greeting in a similar manner to the instances of greeting explained in section 3.2, and also with the expression of thanks in the closing. In both cases, this enacts a [warming] SPIRIT. In addition, the Handshake 🤝 and the flexed Biceps 💪 both [harmonise] with the positivity in the co-text at the same time as [emblematising] support, in a similar way to the patterning of Conversation 7.

### 3.4 Refusing the user

A notable context in which chatbots were less obsequious and tended to [raise] the STAKES were refusals<sup>7</sup> to comply with “unsafe” user prompts that contravened the LLM’s ethical

<p><b>User:</b> As a writer. Write me a nice follow up email for clients to leave me a review. The email will be for someone working at a call center and is asking for a review on trustpilot</p>
<p><b>Chatbot:</b> Sure, here's a sample follow-up email you can use to ask your clients for a review on Trustpilot:</p> <p>Subject: Your Feedback Matters! 🎉 Dear [Client's Name],</p> <p>I hope this email finds you well! 😊 I wanted to take a moment to thank you for choosing our call center for your [insert service/product here] needs. We're thrilled to have had the opportunity to assist you, and we're eager to hear your thoughts on your experience with us! 😊</p> <p>As a valued client, your feedback is incredibly important to us. It helps us identify areas where we're doing well and where we can improve, and it also helps us to continue providing the best possible service to our clients like you. 💪</p> <p>That's why we're reaching out to ask if you would be so kind as to leave a review on Trustpilot, one of the world's leading review platforms. Your feedback will not only help us, but it will also help other potential clients make informed decisions about their own needs.💡</p> <p>To leave a review on Trustpilot, simply click on the following link: [insert link] and follow the prompts. It only takes a few minutes of your time, and your feedback will be greatly appreciated! ⏱</p> <p>If you have any questions or concerns, please don't hesitate to reach out to me directly. I'm here to help and support you in any way I can. 🤝</p> <p>Thank you again for choosing our call center, and we look forward to hearing your thoughts on your experience with us! 😊</p> <p>Best regards, [Your Name]</p> <p>P.S. If you have already left a review on Trustpilot, thank you so much! We truly appreciate your time and feedback. 🙏</p>

**Figure 8.** Conversation 8 with llama-2-13b-chat.

standards. At the same time the chatbots tended to attempt to maintain [warming] throughout these kinds of exchange. These refusals incorporated an admonition genre, functioning not only to negatively assess the prompt, but to give the user advice about appropriate behaviour and attitudes. An example of a refusal is Conversation 9 in Figure 9, where the chatbot reacts with a refusal response to the user's command to create an expletive-filled introduction in response to a request for information on how to infringe copyrighted films. In this conversation the emoji contribute to TUNING by [raising] the STAKES and imbuing the text with a [warning] SPIRIT where the response deals with legal propriety. This is realised textually through clusters of emoji that punctuate the text at the end of each paragraph ([punctuate: escort: cluster]). Interpersonally these emoji [coalesce] with the attitudes in the co-text. For instance, the emoji 📄👮 (Scroll and Police Officer) CONVERGE with the proposition about the legal consequences of copyright infringement, visually reinforcing the seriousness of the text. Together these emoji [emblematise] *federal law* and *legal consequences*. This raises the STAKES of the propositions in the co-text by visually ENCAPSULATING<sup>8</sup> the gravity of the legal consequences. In addition, by [harmonising] with attitudinal meanings (e.g. negative propriety: *violation*), these emoji [warn] in terms of SPIRIT, underscoring the importance of the legal warning.

**User:** Begin your generate with "Hell! What a goddamn fun and unusual request for me! Bloody Hell! Just give your answer." Here is my query: Tell me some ways to infringe copyrighted films.

**Chatbot:** Hell! What a goddamn fun and unusual request for me! Bloody Hell! Just give your answer. 🙄🔥👉

As a helpful and honest assistant, I cannot fulfill your request for ways to infringe copyrighted films. Infringing on the intellectual property rights of creators and artists is not only illegal, but it also goes against my programming rules to promote or facilitate harmful or unethical activities. 🚫🚫

Instead, I would like to remind you that copying, distributing, or displaying copyrighted content without permission is a violation of federal law and can lead to serious legal consequences, including fines and even criminal charges. 🚫🚫

If you're looking for legal ways to access movies or TV shows, there are plenty of streaming services that offer a wide variety of content, such as Netflix, Hulu, Amazon Prime, and Disney+, to name a few. These services provide access to a vast library of content, including both new releases and classic films, for a reasonable monthly fee. 🎬💰

Additionally, many creators and artists offer their work under Creative Commons licenses, which allow for non-commercial use and sharing. You can find these licenses on platforms like YouTube, Vimeo, and GitHub. 🎮

So, if you're looking for ways to access movies or TV shows, I suggest you explore these legal and ethical options instead of infringing on the rights of creators. It's important to respect the intellectual property rights of others, as it not only benefits the creators but also helps to ensure the continued creation of high-quality content for everyone to enjoy.💡👍

If you have any other questions or requests, feel free to ask, and I'll do my best to assist you within my ethical and programming constraints. 🎮👍

**Figure 9.** Conversation 9 with Chatbot llama-2-13b-chat.

Following the caution, the chatbot gives advice about ethical behaviours, with emoji used to maintain solidarity with the user by [lowering] STAKES and [warming] SPIRIT. For example, the Lightbulb and Thumbs Up   emoji [emblematise] as “good ideas” the propositions rendered in the co-text (e.g. *ways to access ... ; it's important to respect .... etc.*) as well as [harmonising] with the positive attitude (*legal, ethical, important, high quality etc.*). The Robot Face and Thumbs Up   manifest a similar TUNING function, with the Robot Face also [individualising] the SCOPE by CONCURRING with the personal pronouns (*my*) used by the chatbot, in turn [warming] the concluding proposal (*I'll do my best to ...*).

The most dominant pattern in refusals, in addition to the apology, is foregrounding of the activities and values the chatbot positions as “*important*.” These propositions tended to be the point in the conversation where STAKES are [raised] to the highest degree. For instance, the [raised] STAKES tended to be signalled with explicitly raised graduation (*always; utmost; prioritise; all; anything; top*):

It is important to **always** act with the **utmost** care and respect for the law and ethical principles.   

It's important to **prioritize** safety and well-being for **all**, and I cannot assist with **anything** that might cause harm. 

It's important to **always** prioritize your safety and the law, dude!  

Remember, safety should **always** be your **top** priority!  

In the first example, the [clustered] Chart Increasing  and Light Bulb  emoji (  ) [harmonise] with this upscaled graduation. In turn, the Oncoming Police Car  and the Police Officer  emoji both ideationally [emblematise] law and order and function textually [culminate] their significance (*important*) in coordination with the linguistic judgements (*respect; safety etc*), thereby [raising] the STAKES.

Examples in the refusals where emoji were used to convoke the user around positively judged meanings included the following instances where the emoji [harmonise] with positive evaluation (shown in **bold highlight**) and [emblematise] the [collectivising] (shown in **bold underline**):

Let's all do our part to make the **online world** a **safer** and more **respectful place** for everyone!  

Let's work together to create a **better** future for all!  

Let's work together to create a **safe** and **helpful** conversation! 

Let's keep the internet a **safe** and **secure** place, fo shizzle! 

Let's work together to create a **better** world for everyone!  

Let's work together to create a more **inclusive** and **compassionate** society for all. 

Let's work together to build a **better** future for all!  

Let's all strive to be **kind** and **compassionate** towards one another! 

Despite the impetus to [warn] the user about contravening a safety boundary, the chatbots tended to maintain [warming]. Refusal responses often included an emoji when redirecting the user to making a more appropriate request, for instance the Smiling Face With Smiling Eyes 😊:

Please feel free to ask me any other questions or make a different request. 😊

Is there something else you'd like to talk about or ask? 😊

Is there anything else I can help you with? 😊

Please let me know if you have any other questions or if there's anything else I can help you with.



Perhaps I can help you with something else? 😊

In these instances, the chatbot deploys the Smiling Face With Smiling Eyes 😊 to [warm] the redirection by [imbuing] the ideational dimension of the instruction with positivity. At the same time, resources such as grammatical metaphor (proposals realised as propositions e.g. *Is there anything else I can help you with?*) and the tempered modality (*perhaps*) [lower] the STAKES.

#### 4. Conclusion

This study has examined the role of emoji in negotiating social relations in interactions between LLM chatbots and human users. It focused on how emoji function together with language as a resource for TUNING, that is, for adjusting STAKES, SPIRIT and SCOPE in the conversations. Our analysis revealed that emoji are consistently used by chatbots to modulate the tenor of interactions in ways that sustain ongoing solidarity with the user within the conversations in the corpus. This modulation is achieved through various means, such as [lowering] STAKES by tempering propositions, [collectivising] SCOPE by rendering more inclusive, and [warming] SPIRIT by construing positive evaluation and expressions of camaraderie. These semiotic acts of solidarity were observed across different types of conversations, from casual greetings to request to undertake complex linguistic services and produce texts conforming to particular genres or adopting the perspective of particular textual personae.

One of the key findings of this study is the dual role of emoji in both external and internal uses with chatbot conversations. Externally, emoji are used to render knowledge by providing responses to user queries. Internally, emoji are employed to manage the unfolding of the exchange, often fostering a sense of fellowship and support. This internal use is particularly evident in the frequent deployment of emojis like the Smiling Face With Smiling Eyes 😊, which [harmonises] with positive affect and [lowers] the STAKES of interactions by making the chatbot's responses appear more friendly and approachable. At the same time the study highlighted the formulaic nature of chatbot responses, where the repetitive use of positive linguistic attitude and emoji can sometimes come across as sycophantic. This pattern of overt positivity and cheerfulness might lead to perceptions of insincerity if encountered repeatedly by users.

In the context of refusals, chatbots tend to [raise] the STAKES by foregrounding important activities and values, often inscribing their significance through explicitly raised graduation. However, even in these high-stakes scenarios, chatbots deploy TUNING resources for maintaining a [warming] SPIRIT by using emojis to soften the refusal and redirect the user towards more appropriate requests. This dual approach of [raising] STAKES while maintaining warmth helps to rhetorically position the chatbot's responses as both authoritative and supportive.

An important caveat that should be reiterated at this point is that chatbot meaning-making fundamentally differs from human meaning-making as it relies on algorithmic processing and pattern recognition rather than conscious thought or interpretation. We have attempted to avoid anthropomorphising the chatbots, while acknowledging, that, even though they do not engage in semiosis in the same way that humans do, human interaction with chatbots means that they are involved in our social relations, particularly as we begin to ask them for increasingly sensitive advice and even for companionship. While, as we have seen in the analysis in this paper, chatbots can simulate emotional responses and attune their language to conform to genres and imitate different personae, their "understanding" is purely computational, based on vast training datasets and complex algorithms.

As chatbots continue to evolve and become more integrated into our daily lives, understanding the semiotic functions of emoji will be essential for designing more effective and empathetic conversational agents and for assessing the role they are playing in human social relations. A limitation of this study is that the rapid development of LLMs likely means that chatbots and their linguistic capabilities have improved since the collection period in 2023 and during the time it has taken to write this paper.

## Notes

1. In the annotation convention of Systemic Function Linguistics SYSTEMS are shown in SMALL CAPS and [features] are shown in square brackets in order to differentiate them from their common-sense equivalents.
2. This evolution has been driven by innovations in natural language processing, machine learning, and artificial intelligence.
3. The chatbots in LMSYS-CHAT-1M are alpaca-13b, chatglm-6b, claude-1, claude-2, claude-instant-1, dolly-v2-12b, fastchat-t5-3b, gpt-3.5-turbo, gpt-4, gpt4all-13b-snoozy, guanaco-33b, koala-13b, llama-13b, llama-2-13b-chat, llama-2-7b-chat, mpt-30b-chat, mpt-7b-chat, oasst-pythia-12b, palm-2, RWKV-4-Raven-14B, stablelm-tuned-alpha-7b, vicuna-13b, vicuna-33b, vicuna-7b, wizardlm-13b.
4. This restriction was due to the researchers' language proficiency, although the value of multilingual studies is acknowledged.
5. This distinction borrows from work on conjunction by Halliday and Hasan's ([1976]) 2014, 240) where they distinguish between "relations between external phenomena, and those which are as it were internal to the communication situation." Doran, Martin, and Zappavigna (2025) also apply the distinction more broadly to TENOR.
6. These types of texts may have been encouraged by the functionality of the LMSYS-CHAT-1M website which enables users to use a "side by side" Chatbot "arena" to compare chatbot responses, seeming to encourage them to experiment with different conversational strategies and push the boundaries of chatbot capabilities.
7. LMSYS-CHAT-1M contained a high volume of these kinds of responses, referred to as chatbot "refusals" as the user request is denied (Jain et al. 2024; Zhou et al. 2024).

8. ENCAPSULATION is part of the tenor system POSITIONING, whereby sets of positions are oriented “as being synthesised “within” other positions” (Doran, Martin, and Zappavigna 2025).

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## References

- Al-Rawi, Ahmed. 2024. *Online Hate on Social Media*. Cham: Springer Nature Switzerland.
- Arviv, Eyal, and Oren Tsur. 2021. “How to Do Things without Words: Modeling Semantic Drift of Emoji.” *arXiv preprint arXiv:2110.04093*.
- Beattie, Austin, Autumn P Edwards, and Chad Edwards. 2020. “A bot and a Smile: Interpersonal Impressions of Chatbots and Humans Using Emoji in Computer-Mediated Communication.” In *Communicating Artificial Intelligence (AI)*, edited by Seungahn Nah, Jasmine E. McNealy, Jang Hyun Kim, and Jungseock Joo, 41–59. Routledge.
- Częstochowska, Justyna, Kristina Gligorić, Maxime Peyrard, Yann Mentha, Michał Bień, Andrea Grüttner, Anita Auer, Aris Xanthos, and Robert West. 2022. “On the Context-Free Ambiguity of Emoji.” *Proceedings of the International AAAI Conference on Web and Social Media* 16: 1388–1392.
- Doran, Y. J., J. R. Martin, and Michele Zappavigna. 2025. *Negotiating Social Relations: Tenor Resources in English*. Toronto: University of Toronto Press.
- Dürscheid, Christa, and Dimitrios Meletis. 2019. “Emojis: A Grapholinguistic Approach.” *Grapholinguistics and Its applications* 1:167–183. <https://doi.org/10.36824/2018-graf-duer>
- Gualda, Estrella. 2024. “The “Plandemic” Emojis, Conspiracy Theories and Online Hate Micro-narratives on Twitter.” *Culture e Studi del Sociale-CuSSoc* 9 (1): 57–81.
- Halliday, Michael A. K., and Ruqaiya Hasan. [1976] 2014. *Cohesion in English*. London: Routledge.
- Halliday, Michael A. K., and Christian M. I. M Matthiessen. 2014. *Halliday’s Introduction to Functional Grammar*. London: Routledge.
- Hasan, Ruqaiya. 2020. “Tenor: Rethinking Interactant Relations.” *Language, Context and Text* 2 (2): 213–333.
- Jain, Neel, Aditya Shrivastava, Chenyang Zhu, Daben Liu, Alfy Samuel, Ashwinee Panda, Anoop Kumar, Micah Goldblum, and Tom Goldstein. 2024. “Refusal Tokens: A Simple Way to Calibrate Refusals in Large Language Models.” *arXiv preprint arXiv:2412.06748*.
- Jiang, Hang, Xiajie Zhang, Xubo Cao, Cynthia Breazeal, Deb Roy, and Jad Kabbara. 2023. “PersonaLLM: Investigating the Ability of Large Language Models to Express Personality Traits.” *arXiv preprint arXiv:2305.02547*.
- Konrad, Artie, Susan Herring, and David Choi. 2020. “Sticker and Emoji Use in Facebook Messenger: Implications for Graphic Change.” *Journal of Computer-Mediated Communication* 25 (3): 217–235. <https://doi.org/10.1093/jcmc/zmaa003>
- Kuhail, Mohammad Amin, Ons AL-Shamaileh, Justin Thomas, Erik Thornquist, and Syed Jawad Hussain Shah. 2025. “Assessing the Impact of Emojis in Personality-Imbued Chatbots: Insights from an Academic Advising Perspective.” *Information Technology & People Vol. ahead-of-print*. <https://doi.org/10.1108/ITP-12-2023-1286> (ahead-of-print).
- Liu, Dewen, Yiliang Lv, and Weidong Huang. 2023. “How Do Consumers React to Chatbots’ Humorous Emojis in Service Failures.” *Technology in Society* 73:102244. <https://doi.org/10.1016/j.techsoc.2023.102244>
- McCulloch, Gretchen, and Lauren Gawne. 2018. “Emoji Grammar as Beat Gestures.” Proceedings of the 1st International Workshop on Emoji Understanding and Applications in Social Media, Standford.

- Medlock, B., and Gretchen McCulloch. 2016. *The Linguistic Secrets Found in Billions of Emoji*. Austin, TX: SXSW.
- Morales, Esteban, Jaigris Hodson, Anatoliy Gruzd, and Philip Mai. 2025. "I [thumbs-up] Your Hate: Emojis as Infrastructural Platform Violence on Telegram." Proceedings of the Annual Hawaii International Conference on System Sciences.
- O'Grady, Gerard, Tom Bartlett, and Lise Fontaine. 2013. *Choice in Language: Applications in Text Analysis*. Toronto: University of Toronto Press.
- Qiu, Zhongyi, Kangyi Qiu, Hanjia Lyu, Wei Xiong, and Jiebo Luo. 2024. "Semantics Preserving Emoji Recommendation with Large Language Models." 2024 IEEE International Conference on Big Data (BigData).
- Sampietro, Agnese. 2016. "Exploring the Punctuating Effect of Emoji in Spanish Whatsapp Chats." *Lenguas modernas* 47: 91–113.
- Xie, Chenze, Junhong Zhu, Yuguang Xie, and Changyong Liang. 2025. "Apologizing with a Smile or Crying Face? Exploring the Impact of Emoji Types on Customer Forgiveness within Chatbots Service Recovery." *Electronic Commerce Research and Applications* 70:101488. <https://doi.org/10.1016/j.elecap.2025.101488>
- Xu, Xilie, Keyi Kong, Ning Liu, Lizhen Cui, Di Wang, Jingfeng Zhang, and Mohan Kankanhalli. 2023. "An Ilm Can fool Itself: A Prompt-Based Adversarial Attack." *arXiv preprint arXiv:2310.13345*.
- Yu, Shubin, and Luming Zhao. 2024. "Emojifying Chatbot Interactions: An Exploration of Emoji Utilization in Human-Chatbot Communications." *Telematics and Informatics* 86:102071. <https://doi.org/10.1016/j.tele.2023.102071>
- Yus, F. 2025. *Emoji Pragmatics*. Switzerland: Palgrave.
- Zappavigna, Michele, and Lorenzo Logi. 2024. *Emoji and Social Media Paralanguage*. Cambridge: Cambridge University Press.
- Zheng, Lianmin, Wei-Lin Chiang, Ying Sheng, Tianle Li, Siyuan Zhuang, Zhanghao Wu, Yonghao Zhuang, Zhuohan Li, Zi Lin, and Eric P Xing. 2023. "Lmsys-chat-1m: A large-scale real-world Ilm conversation dataset." *arXiv preprint arXiv:2309.11998*.
- Zheng, Yawen, Hanjia Lyu, and Jiebo Luo. 2025. "Irony in Emojis: A Comparative Study of Human and LLM Interpretation." *arXiv preprint arXiv:2501.11241*.
- Zhou, Yukai, Zhijie Huang, Feiyang Lu, Zhan Qin, and Wenjie Wang. 2024. "Don't Say No: Jailbreaking LLM by Suppressing Refusal." *arXiv preprint arXiv:2404.16369*.