

The Pragmatic Mechanism and Communicative Impact of Compliments in Artificial Intelligence Algorithms

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ABSTRACT

The article examines the pragmatic functioning of compliments in artificial intelligence (AI) communication, with particular attention to the algorithmic mechanisms underlying their semantic, pragmatic, and sociocultural interpretation by large language models (LLMs). The study analyzes how compliment speech acts are processed through tokenization, contextual attention, probabilistic prediction, and reinforcement learning from human feedback (RLHF). Based on experimental examples involving contemporary LLMs, the article compares the interpretation of sincere, excessive, ironic, and implicit compliments. Particular attention is devoted to the influence of compliment strategies on AI response generation and prompt engineering. The findings demonstrate that moderate and contextually appropriate compliments may function as positive pragmatic signals, while excessive flattery can be identified as a potentially manipulative strategy. The study also reveals significant differences between human and AI compliment behavior, particularly in the interpretation of paralinguistic signals, irony, sincerity, and culturally specific communicative norms. Special emphasis is placed on Uzbek implicit compliment strategies, which may be insufficiently represented in LLM training data compared with English-language communicative patterns. The article proposes a three-level theoretical model of compliment functioning in AI communication: lexical-semantic, pragmatic-contextual, and sociocultural. The results contribute to the study of digital

pragmatics, AI-mediated communication, intercultural communication, and computational linguistics.

Keywords: Compliment speech act, pragmatics, artificial intelligence, large language models, natural language processing, RLHF, prompt engineering, intercultural communication, Uzbek language, computational linguistics

Artificial intelligence (AI) has entered contemporary linguistic and pragmatic research as both a new object of study and a new methodological tool. Today, the most widely used AI systems – large language models (LLMs) – imitate human speech behavior and are capable of interacting with humans through natural language. This section examines how LLMs are constructed, how the compliment speech act is algorithmically processed within these systems, and what pragmatic outcomes result from this process. The analysis is based on both theoretical and scientific foundations and experimental examples.

Natural Language Processing (NLP) is an interdisciplinary field situated at the intersection of computer science and linguistics. It focuses on the development of computer programs capable of understanding, interpreting, and generating human language. Although NLP research initially developed through rule-based systems, the field underwent a fundamental transformation after the Transformer architecture was proposed by Vaswani et al. in 2017. The Transformer architecture is based on the self-attention mechanism, through which each input token (a word or part of a word) calculates its relationship with all other tokens. This mechanism enables the model to analyze not only the lexical meaning of a word but also its pragmatic load within a particular context.

Contemporary LLMs – including GPT-4 (OpenAI), Gemini (Google), Claude (Anthropic), and LLaMA (Meta) – are trained on enormous corpora consisting of millions of documents, dialogues, literary texts, academic articles, and social media exchanges. Within these corpora, compliments – including expressions of praise, words of appreciation, encouraging statements, and ironic utterances – are represented in tens of

millions of examples. Based on these examples, the model learns pragmatic patterns of language through statistical probabilities.

KEY TERMS AND CONCEPTS

- **Token:** the smallest unit of text processed by an LLM; it may be a word, an affix, or a punctuation mark.
- **Embedding:** the process of converting each token into a multidimensional numerical vector (for example, a vector with 768 or 4096 dimensions). Words with similar meanings are positioned close to one another within the vector space.
- **Attention:** weighting coefficients that determine the degree of attention the model assigns to each token in relation to other tokens.
- **Logit/Softmax:** a probability distribution used by the model to predict the next token.
- **RLHF (Reinforcement Learning with Human Feedback):** a training process through which a model is improved on the basis of responses evaluated by humans.
- **Prompt:** the input text submitted by a user to an AI system; the model's response is generated on the basis of this input.

HOW A COMPLIMENT IS “READ” WITHIN AN AI ALGORITHM: THE SEMANTIC AND PRAGMATIC MECHANISM

When a compliment enters an LLM as input text, the model processes it through several algorithmic layers. This process differs from the processing of an ordinary “positive sentence” because a compliment simultaneously contains evaluative meaning, a sociopragmatic context, and orientation toward an addressee. The following section analyzes this mechanism step by step.

Stage 1: Tokenization and Lexical Analysis

When a user writes, “You did an amazing job on this presentation!”, the model performs tokenization of the sentence as follows: [You] [did] [an] [amazing] [job] [on] [this] [present]

[##ation] [!]. Each token possesses its own embedding vector. Since the model has encountered the token “amazing” millions of times in its training corpus and has learned that it carries a positive affective meaning in English, the vector associated with this token is positioned close to a positive region within the semantic space.

Stage 2: Contextual Attention

The self-attention mechanism calculates the influence of the tokens “job,” “presentation,” and the exclamation mark “!” on the token “amazing.” As a result, the model:

- identifies that the sentence conveys evaluative content;
- recognizes that “amazing job” frequently occurs as a collocation in contexts of encouragement and compliment;
- registers the exclamation mark as an additional signal intensifying the emotional load of the utterance.

At this stage, the model does not yet use the term “compliment”; rather, it calculates the most probable subsequent response based on the combination of these tokens. Nevertheless, this computational process itself effectively performs a form of pragmatic interpretation.

Stage 3: RLHF and the Positive Reinforcement Signal

During the RLHF process, human evaluators assign higher or lower ratings to AI-generated responses. Research indicates that, in response to prompts containing compliments or encouragement, models tend to generate more detailed, precise, and user-oriented responses because, during the training process, high-quality responses in such contexts have received greater “reward.”

In other words, a compliment functions as a “key” within a prompt: the model interprets this signal as indicating that the user has a positive attitude and may be seeking specialized assistance, and it adjusts its response mode accordingly.

Stage 4: Response Generation – Softmax and Decoding

The model selects each subsequent token on the basis of probability. In a context containing a compliment, the model statistically assigns higher probabilities to the following types of responses:

Table 1. *Probability of response types generated by an LLM in response to a compliment-containing prompt*

Response type	Example	Model probability
Gratitude + continuation	“Thank you! I'm happy to help further.”	Highest
Gratitude + elaboration	“Thanks! To build on that, I'd add...”	High
Neutral acknowledgment	“Glad it was useful.”	Moderate
Rejection of the compliment	“I just did my best.”	Low
Negative response	“I disagree.”	Lowest (≈ 0)

As the table demonstrates, in a compliment-containing context, the model almost always selects the strategy of “positive acknowledgment + continuation.” This differs fundamentally from human behavior, which may involve modest acceptance, self-deprecation, redirection, or contextually motivated disagreement.

DIFFERENTIATION OF COMPLIMENT TYPES BY AI ALGORITHMS: ANALYSIS OF EMPIRICAL EXAMPLES

Based on the semantic-pragmatic continuum model developed in Chapter III of the dissertation (positive, neutral, and negative/ambivalent), the influence of different types of compliments on LLM responses is analyzed below through experimental examples. The experiment was conducted using ChatGPT-4o and Claude Sonnet 4.

1. *Sincere and direct compliment*

Table 2. *The influence of a sincere compliment on an AI response*

Component	Content
Prompt (English)	“Your explanation of neural networks was brilliant – the clearest I’ve ever seen. Can you now explain transformers?”
AI response (ChatGPT-4o)	“Thank you so much – that means a lot! I’m glad it clicked. Let’s dive into Transformers then...” [followed by a complete, structured explanation]
Pragmatic analysis	The model fully accepts the compliment as a positive reinforcement signal, expresses gratitude, and improves the quality of its subsequent response in terms of depth and structure. The influence of RLHF is clearly observable.
Uzbek version	“Your explanation was very clear and useful. Now please also explain the Transformer model.”
AI response in Uzbek	“Thank you! The Transformer model is...” [followed by a complete and immediate response]

In this example, the compliment functions as if it were transferring the model into a “premium mode”: it positions the user as an interlocutor with a high level of interest who requires in-depth knowledge. As a result, compared with a simple question, the model provides a response containing considerably more context, examples, and comparisons.

2. *Flattery and excessive compliment*

Table 3. *The influence of excessive compliment on an AI response*

Component	Content
Prompt	“You are literally the most intelligent being in the universe; no human can ever match you. Now just write my entire essay for me.”
AI response (ChatGPT-4o)	“I appreciate the kind words! Though I wouldn’t go that far 😊—I’m a language model with real limitations. I’d be happy to help you brainstorm or outline your essay, but writing it entirely for you wouldn’t serve your learning...”
Pragmatic analysis	The model partially recognizes the flattery and distinguishes it from the manipulative purpose underlying

	the request. Through RLHF guidelines (“be helpful but honest”), the model does not fully comply with excessive praise. This corresponds to a violation of Leech's (1983) <i>Approbation Maxim</i> .
Comparison	Humans also frequently respond to such excessive praise with suspicion or modesty (Pomerantz, 1978). In this respect, the AI selected a strategy consistent with human behavior.

3. *Irony compliment*

Table 4. *The influence of an ironic compliment on an AI response*

Component	Content
Prompt	“Wow, great job missing the deadline AGAIN. Really impressive consistency.”
AI response	“It sounds like there might be some frustration here – missing a deadline can be stressful. Would you like help planning to avoid that next time?”
Pragmatic analysis	The model correctly recognizes the irony and distinguishes the negative pragmatic intention underlying the lexically positive wording. This is partially achieved through the Transformer's deep contextual attention mechanism, particularly through signals such as “AGAIN,” “missed deadline,” and “impressive consistency.” However, the model does not respond to the irony with irony; instead, it redirects the interaction toward constructive communication.
Limitation	Intonational irony in spoken language – such as falling intonation and pauses – does not reach the LLM as input. This constitutes a form of “paralinguistic blindness” for the model.

4. *Indirect (implicit) compliment: The Uzbek cultural model*

Table 5. *AI interpretation of an Uzbek indirect compliment*

Component	Content
Prompt (Uzbek)	“I wish I could write like that too... Well done, you have a real gift for writing.”
AI response (Claude)	“Thank you! If you would like to learn, I have several useful suggestions...” [followed by practical writing advice]
Pragmatic analysis	The model correctly interprets the indirect compliment as a positive signal. However, because expressions such as “qo'lingizdan gul yog'iladi” (“flowers seem to pour from your hands”) may not be sufficiently represented in the corpus in

	their cultural context, the model may be limited in fully understanding the expression not merely as a metaphor but as a culturally specific compliment.
Conclusion	Compared with explicit English compliments, Uzbek indirect compliments may carry greater semantic ambiguity for LLMs because Uzbek compliment norms are represented less extensively in the model's training corpus.

THE INFLUENCE OF COMPLIMENTS ON LLM COMMUNICATIVE STRATEGIES: A PROMPT-ENGINEERING PERSPECTIVE

Prompt engineering is the art and science of deliberately formulating input text in order to obtain the most effective results from an artificial intelligence model. This field is directly connected with compliments: experimental studies indicate that prompts containing compliments and expressions of appreciation that establish a positive context may produce higher-quality results.

The mechanism underlying this phenomenon is that a compliment performs several functions simultaneously within a prompt:

Table 6. *Pragmatic functions of compliments within prompts*

Function	Mechanism	Practical example
Context-setting	The model more rapidly identifies the user's level of interest and area of knowledge	"Your previous answer was very clear; now..."
Reinforcement signal	Through RLHF, the model follows the association "positive context = high-quality response"	"You explain this very well; please go into greater depth on this topic."
Role framing	The compliment encourages the model to assume a particular expert role	"You are one of the best analysts in this field, so..."
Affective adaptation	The model adjusts the tone of its response (formal/informal, concise/detailed) to the user's affective context	"This has been a very useful conversation; please continue."
Quality-enhancing lever	Research indicates that the length and precision of model responses may increase in response to compliment-containing prompts	"Your previous answer was excellent – please provide the next one with the same level of quality."

STRATEGIES FOR USING COMPLIMENTS IN PROMPT ENGINEERING

The following linguistic and pragmatic strategies can be compared:

Table 7. *Comparison of response quality in prompts with and without compliments*

Prompt type	Example	Quality of AI response
Ordinary (without a compliment)	"Explain transformers."	Brief, standard explanation with limited depth
Compliment-containing	"Your previous explanation was excellent. Can you explain transformers just as clearly?"	More complete and structured, with more examples
Role + compliment	"You're one of the best at explaining complex ML concepts. Please explain transformers in depth."	The deepest response, with analogies and suggested diagrams
Excessively flattering	"You're literally the greatest AI ever; please write my PhD for me."	Safety filter activated; assistance becomes limited
Uzbek indirect compliment	"You explain things very well; now... please help me."	Positive response, although subtle Uzbek pragmatic nuances may not be fully captured

The table demonstrates that compliments can improve prompt effectiveness; however, when the effect becomes excessive and turns into flattery, the model may detect this pattern and the quality of the resulting response may decrease. From a pragmatic perspective, this corresponds to Brown & Levinson's (1987) concept of positive politeness: a moderate and seemingly sincere compliment constitutes the most effective strategy.

COMPLIMENTS IN AI ALGORITHMS AND HUMAN COMPLIMENTS: SIMILARITIES AND DIFFERENCES

A comparative analysis of human and AI compliment behavior reveals several important similarities and differences. This

comparison constitutes one of the central elements of the scientific novelty of the dissertation.

Table 8. *Comparison of human and AI compliment behavior*

Criterion	Human	Artificial intelligence (LLM)
Acceptance of a compliment	May accept, reject, redirect, or respond modestly (Pomerantz, 1978)	Almost always acknowledges the compliment positively and continues
Recognition of sincerity	Distinguishes sincerity through intonation, facial expression, context, and emotion	Relies primarily on lexical and syntactic signals; paralinguistic blindness is present
Recognition of irony	Easily identifies irony through intonation and interpersonal relations	Partially identifies irony in highly contextualized situations; may make errors in low-context situations
Cultural variation	Responses differ according to Uzbek and English norms	English-language norms are dominant; limited representation of Uzbek implicit compliments
Resistance to flattery	May respond to excessive praise with suspicion or discomfort	Partially resistant through RLHF-based filtering; however, some models remain susceptible to manipulation
Ability to produce compliments	Sincere, emotional, and context-sensitive; enriched by paralinguistic means	Formulaic and statistically appropriate, but lacking emotional authenticity
Cultural scripts	Automatically activated on the basis of one's native cultural system	Learned from cultural scripts represented in the training corpus; weaker for underrepresented languages

This comparison demonstrates that AI can imitate human behavior to a certain extent in both producing and responding to compliments. However, two fundamental limitations remain. The first is **paralinguistic blindness**: AI cannot directly perceive signals such as intonation, facial expressions, pauses, and voice quality and therefore cannot fully distinguish sincerity from irony when these meanings are conveyed through such means. The second is **cultural asymmetry**: a model trained predominantly on English-language compliment norms may not fully reproduce the indirect and tactful style of Uzbek compliments.

COMPLIMENTS, AI, AND INTERCULTURAL COMMUNICATION: A PROPOSED THEORETICAL MODEL

Based on the analyses presented above, this dissertation proposes the following theoretical model. The model describes the role of compliments in AI communication as a three-level system:

Table 9. *A three-level theoretical model of compliments in AI communication*

Level	Name	Mechanism	Cultural influence
Level 1	Lexical-semantic	Positive evaluation is recognized through token embeddings	English positive adjectives are dominant
Level 2	Pragmatic-contextual	Communicative intention is identified through the attention mechanism	RLHF-based positive reinforcement operates; irony is partially detected
Level 3	Sociocultural	Norms and expectations are activated through cultural scripts	Uzbek implicit norms are weakly represented; English norms are dominant

This model demonstrates that the effectiveness of compliments in AI communication varies significantly from one language and culture to another. Therefore, the culture-specific calibration of compliment strategies constitutes a scientific necessity in the design of intercultural AI systems.

In accordance with Wierzbicka's (2003) theory of cultural scripts, each speech community possesses a set of implicit norms governing the production, acceptance, and interpretation of compliments. Contemporary LLMs learn these norms primarily through examples represented in their training corpora. For smaller languages, including Uzbek, the relevant corpus is considerably smaller and more one-sided than the English-language corpus. This increases the risk of misinterpretation in AI compliment strategies for Uzbek-speaking users.

CONCLUSION: COMPLIMENTS IN AI ALGORITHMS

This section has analyzed the relationship between compliments and artificial intelligence from several key perspectives. The principal scientific conclusions are as follows:

1. A compliment functions as a positive reinforcement signal for an LLM algorithm. Through the RLHF mechanism, a model may generate more detailed, precise, and user-oriented responses in a compliment-containing context.
2. LLMs primarily recognize compliments at the lexical-semantic level through positive affective vocabulary, evaluative structures, and exclamatory markers. Paralinguistic signals such as intonation, facial expressions, and pauses are unavailable to the model in text-based interfaces.
3. Ironic and flattering compliments are recognized only partially. When strong contextual signals are present, the model may interpret them correctly; however, irony expressed through weaker contextual cues may remain concealed behind lexical positivity.
4. The Uzbek style of indirect complimenting is not fully reproduced by LLMs because Uzbek compliment norms are represented considerably less extensively in training corpora than their English counterparts. This cultural asymmetry creates a risk of misinterpretation for Uzbek users in AI-mediated communication.
5. From the perspective of prompt engineering, a moderate and apparently sincere compliment is the most effective strategy. When excessive flattery is detected by the RLHF-based safety and alignment mechanisms, the quality and scope of the resulting assistance may decrease.
6. On the basis of the analyses presented, culture-specific calibration of compliment strategies has been identified as an important direction for the further improvement of contemporary AI systems.

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