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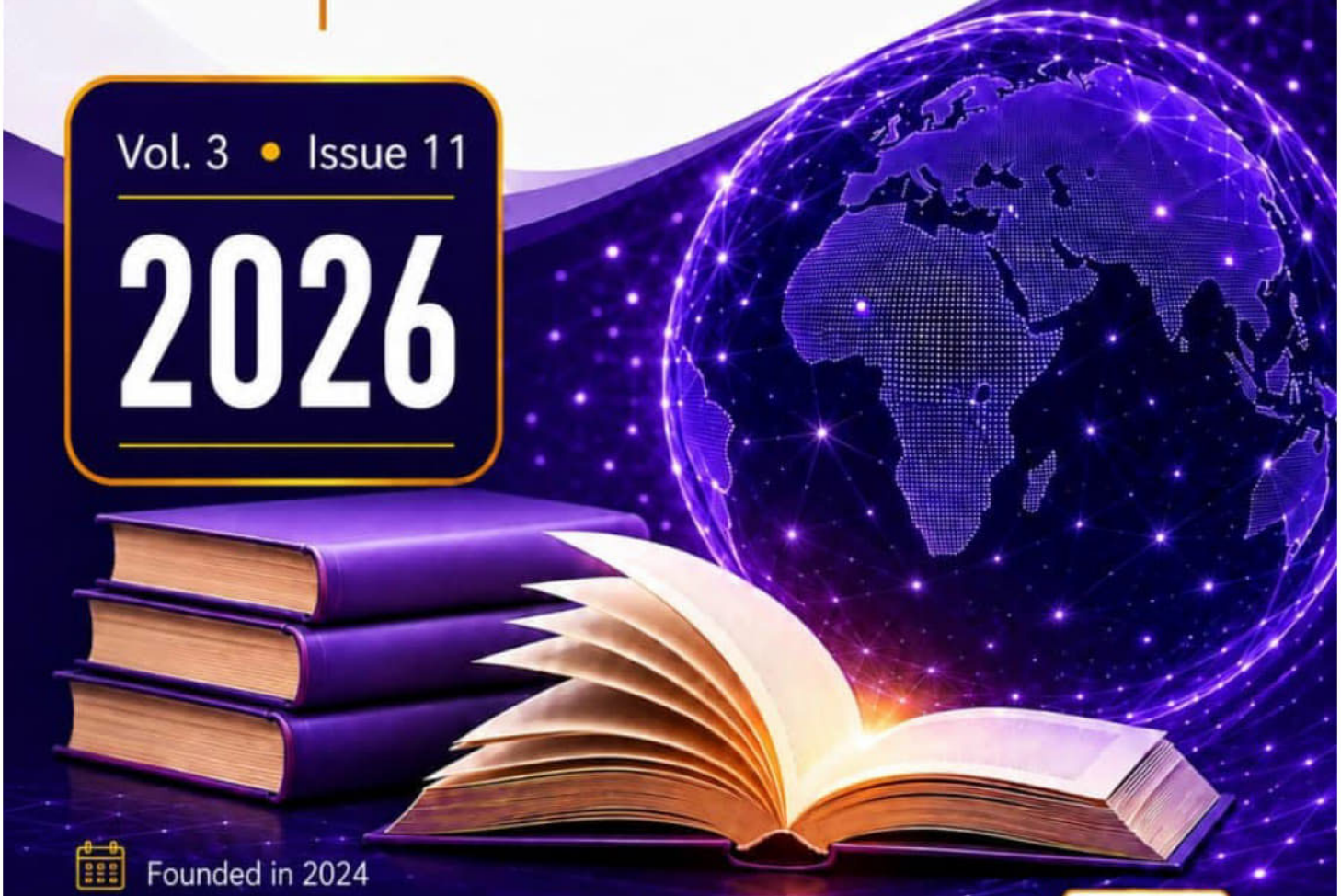
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INSON VA SUN'IY INTELLEKT O'RTASIDAGI MULOQOTNING PRAGMATIK XUSUSIYATLARI

Ergasheva Ziyoda
Samarqand davlat chet tillar instituti, dotsent.
e-mail: ergasheva.ziyoda@gmail.com **ORCID**: https://orcid.org/0000-0003-2318-5258

Annotatsiya.
Maqolada inson va sun'iy intellekt (SI) o'rtasidagi muloqotning pragmatik va lingvokognitiv xususiyatlari tadqiq etiladi. Prompt va javob misollari asosida uchta lingvokognitiv parametr (freym faollashuvi, kognitiv kontekst, mental modellar) hamda beshta pragmatik mexanizm (nutqiy aktlar, hamkorlik tamoyili, xushmuomalalik, suhbat implikaturasi, presuppozitsiya) tahlil qilinadi. Yetarli kontekst va aniq kommunikativ maqsadlarga ega promptlar yanada izchil javoblarni yuzaga keltirishi, sun'iy intellekt suhbat xotirasi va kontekstual vektorli ifodalar orqali diskurs uzluksizligini modellashtirishi, shuningdek, kommunikativ muvaffaqiyat inson va hisoblash tizimining mental modellari o'rtasidagi muvofiqlikka bog'liqligi ko'rsatiladi.

Kalit so'zlar: inson va sun'iy intellekt o'rtasidagi muloqot, pragmatika, nutqiy aktlar, hamkorlik tamoyili, xushmuomalalik, suhbat implikaturasi, presuppozitsiya, freym faollashuvi, kognitiv kontekst, mental modellar, katta til modellari.

ПРАГМАТИЧЕСКИЕ ОСОБЕННОСТИ КОММУНИКАЦИИ МЕЖДУ ЧЕЛОВЕКОМ И ИСКУССТВЕННЫМ ИНТЕЛЛЕКТОМ

Эргашева Зиёда
Самаркандский государственный институт иностранных языков, доцент.

Аннотация.
В статье рассматриваются прагматические и лингвокогнитивные особенности коммуникации между человеком и искусственным интеллектом (ИИ). На основе примеров запросов и ответов анализируются три лингвокогнитивных параметра (активация фреймов, когнитивный контекст, ментальные модели) и пять прагматических механизмов (речевые акты, принцип кооперации, вежливость, разговорная импликатура, пресуппозиция). Показано, что запросы, содержащие достаточный контекст и чётко сформулированные коммуникативные цели, обеспечивают более связные ответы; искусственный интеллект моделирует непрерывность дискурса посредством разговорной памяти и контекстных векторных представлений; а коммуникативный успех зависит от совместимости ментальных моделей человека и вычислительной системы.

Ключевые слова: коммуникация человека и искусственного интеллекта, прагматика, речевые акты, принцип кооперации, вежливость, разговорная импликатура, пресуппозиция, активация фреймов, когнитивный контекст, ментальные модели, большие языковые модели.

PRAGMATIC FEATURES OF HUMAN–ARTIFICIAL INTELLIGENCE COMMUNICATION

Ergasheva Ziyoda
Samarkand State Institute of Foreign Languages (SamSIFL), Associate Professor.

Abstract.
The article examines the pragmatic and linguocognitive features of communication between humans and artificial intelligence (AI). Three linguocognitive parameters (frame activation, cognitive context, and mental models) and five pragmatic mechanisms (speech acts, the Cooperative Principle, politeness, conversational implicature, and presupposition) are analyzed using prompt–response examples. The findings indicate that prompts containing sufficient context and clearly defined communicative goals produce more coherent responses; that AI simulates discourse continuity through conversational memory and contextual embeddings; and that communicative success depends on the compatibility of human and computational mental models.

Keywords: human–AI communication, pragmatics, speech acts, Cooperative Principle, politeness, conversational implicature, presupposition, frame activation, cognitive context, mental models, large language models.

Introduction. Large language models have transformed conversation with artificial intelligence into an everyday form of communication mediated by natural language, making it a legitimate object of pragmatic research. Pragmatics examines how meaning depends on context, speaker intention, and the principles governing language use [1]. This article describes the parameters and mechanisms regulating human–AI interaction, supported by illustrative examples.

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FRAME ACTIVATION

Another important linguocognitive parameter identified in the analysis is frame activation, which plays a decisive role in determining the quality and precision of AI-generated responses. Communication becomes more successful when users formulate prompts containing sufficient contextual information, relevant background knowledge, and clearly specified communicative goals. Such prompts activate more specific semantic and cognitive frames [2] that guide the interpretation of linguistic input. These activated frames enable artificial intelligence systems to retrieve and organize more relevant information, resulting in responses that demonstrate greater coherence, contextual appropriateness, and informational accuracy. Conversely, vague, incomplete, or linguistically ambiguous prompts may activate multiple competing semantic frames, increasing interpretative uncertainty and reducing communicative precision. This may ultimately lead to responses that only partially satisfy users' communicative intentions.

The findings further reveal that cognitive context functions as an essential parameter in sustaining coherent dialogue between humans and artificial intelligence. During natural human communication, interlocutors continuously interpret incoming information by integrating previous conversational turns, shared background knowledge, situational circumstances, cultural assumptions, and discourse history into an evolving cognitive representation of the interaction. Artificial intelligence systems simulate this process through conversational memory, contextual representations, and predictive language modeling, which preserve relevant information from earlier stages of the dialogue and incorporate it into subsequent responses. Although computational context management differs fundamentally from the dynamic cognitive memory employed by humans, both systems perform comparable communicative functions by maintaining discourse continuity, supporting reference resolution, and ensuring that subsequent contributions remain relevant to the evolving communicative context.

The analysis also demonstrates that successful human–AI interaction depends on the construction and continuous adaptation of compatible mental models [3] by both communicative participants. Throughout the interaction, human users gradually develop mental representations of the capabilities, limitations, reliability, and communicative behavior of artificial intelligence. These evolving expectations influence how users formulate prompts, evaluate responses, and regulate subsequent interactions. Simultaneously, AI systems infer probable user intentions, communicative goals, informational needs, and discourse strategies through probabilistic analysis of linguistic input and conversational context, thereby constructing predictive representations of user behavior. The effectiveness of communication therefore depends to a considerable extent on the degree of compatibility between these human and computational representational systems, since greater alignment between users' expectations and AI-generated predictions contributes to more accurate interpretation, improved communicative efficiency, and higher levels of user satisfaction.

SPEECH ACTS

The findings indicate that speech acts [1] constitute one of the fundamental pragmatic mechanisms underlying human–AI communication because every prompt submitted by a user performs a particular communicative function that extends beyond its literal linguistic form. In most interactions, human prompts function primarily as directive speech acts, requesting information, instructions, explanations, summaries, translations, or the completion of specific tasks. AI responses, in contrast, typically realize representative, explanatory, directive, and occasionally expressive speech acts, despite the absence of genuine communicative intentions or psychological states. Although artificial intelligence does not possess beliefs, emotions, or intentions in the human sense, it can simulate these pragmatic functions by generating linguistically appropriate responses that correspond to users' communicative expectations.

Example 1:

User: "Explain the difference between pragmatics and discourse analysis in simple terms."

The prompt is a directive speech act (a request for an explanation), while the response is representative and explanatory.

AI: "Pragmatics studies how meaning depends on context, while discourse analysis examines how language is organized and functions across larger stretches of communication."

Example 2:

User: "Translate this paragraph into academic English."

The prompt is a directive requesting a linguistic task, which the AI response performs.

The analysis further demonstrates that AI-generated responses generally conform to Grice's Cooperative Principle [4], particularly by providing information that is relevant, sufficiently informative, logically organized, and linguistically clear. This enables users to achieve their communicative goals with relatively little interactional effort. Nevertheless, one of the principal limitations of contemporary large language models is their tendency to occasionally generate inaccurate or fabricated information, commonly referred to as hallucinations [5]. Such instances constitute violations of the Maxim of Quality because the generated content may appear plausible despite lacking factual accuracy.

Example 1 (Observing the Cooperative Principle):

User: "What are the four Gricean maxims?"

AI: "The four Gricean maxims are Quantity, Quality, Relation, and Manner, which together describe how speakers cooperate to communicate effectively."

The response satisfies the maxims of Quantity, Relation, and Manner.

Example 2 (Violation of the Maxim of Quality):

User: "Who invented the first smartphone in 1998?"

AI: "John Smith invented the first smartphone in 1998."

If fabricated, the response violates the Maxim of Quality by presenting false information as factual.

POLITENESS STRATEGIES

The findings reveal that politeness strategies [6] remain an important pragmatic regulator within human–AI interaction because both users and AI systems employ linguistic expressions that minimize social distance, maintain cooperative interaction, and facilitate successful communication. Although artificial intelligence neither experiences emotions nor requires politeness for interpersonal reasons, polite user prompts may elicit more detailed, elaborated, and conversationally rich responses, whereas brief, command-oriented prompts often result in shorter, more direct outputs. Consequently, politeness primarily influences the stylistic characteristics and discourse organization of AI-generated responses rather than their factual accuracy.

Example 1 (Polite Prompt):

User: “Could you please explain this theory and provide an example?”

AI: “Certainly. The theory explains..., and one practical example is...”

The response is relatively detailed, cooperative, and conversational.

Example 2 (Direct Prompt):

User: “Explain this theory.”

AI: “The theory states that...”

Both responses provide information, but the polite request may yield a more elaborate and conversational explanation.

CONVERSATIONAL IMPLICATURE

The analysis also demonstrates that contemporary AI systems increasingly interpret indirect requests by inferring users’ implied communicative intentions rather than relying exclusively on the literal meaning of linguistic expressions [1; 4]. This ability enables AI to respond appropriately to many forms of indirect communication. However, conversational implicature remains one of the most complex aspects of AI-mediated interaction because successful interpretation depends on sophisticated contextual reasoning, shared background knowledge, and pragmatic inference, all of which remain challenging for computational language models.

Example 1:

User: “I’m preparing my dissertation defense next week and still haven’t made the presentation.”

The implied request is “Please help me prepare my presentation.” A context-sensitive AI may respond:

AI: “I can help you prepare a presentation outline or design your PowerPoint slides if you would like.”

Example 2:

User: “This paragraph sounds repetitive.”

AI infers the implied request rather than treating the statement merely as an observation:

AI: “I can rewrite the paragraph to improve clarity and reduce repetition.”

Finally, the findings indicate that presupposition [1] significantly influences discourse construction during human–AI communication because AI systems may accept background assumptions embedded within user prompts unless they are explicitly instructed to verify or critically evaluate those assumptions. Consequently, presupposed information may be incorporated into generated responses without independent validation, thereby influencing both the direction and content of subsequent discourse.

Example 1:

User: “Why did the new language policy improve students’ speaking skills?”

The question presupposes that the policy improved students’ speaking skills. Unless instructed otherwise, AI may accept this assumption and explain possible reasons rather than questioning whether the improvement actually occurred.

Example 2:

User: “Continue summarizing the article we discussed yesterday.”

The prompt presupposes a previous discussion and shared knowledge. AI attempts to retrieve or reconstruct that context, if available, to maintain discourse coherence.

The analysis demonstrates that human–AI communication is regulated by the interaction of linguocognitive parameters and pragmatic mechanisms. Formulating prompts with sufficient contextual information and explicit communicative goals, while critically evaluating presuppositions and verifying factual claims in AI-generated outputs, is therefore essential for effective human–AI communication.

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