AI AND CULTURAL MISUNDERSTANDING IN DIGITAL COMMUNICATION

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Abstract

Artificial intelligence (AI) is now used for translation, writing, online customer support and social media. However, digital communication depends on more than the dictionary meaning of words. People also use irony, jokes, local expressions, politeness rules and visual clues. An AI system may understand the words in a message but miss the cultural meaning behind them. This article discusses how such misunderstandings happen and why they matter for communication between people from different cultural backgrounds. It uses examples from a supplied case document about Uzbek, Iranian, British and Japanese communication, and compares them with published research on cultural bias, sarcasm and multilingual language models. The discussion suggests practical steps: include more local-language material in training, consider images and surrounding context, ask users for clarification when meaning is unclear, and involve local speakers in testing. AI can support intercultural communication, but its output should not automatically be treated as culturally correct.

Keywords: *artificial intelligence, digital communication, culture, pragmatics, irony, sarcasm, multilingual communication, translation.*

Аннотация

Искусственный интеллект используется для перевода, создания текстов, онлайн-поддержки и общения в социальных сетях. Однако смысл сообщения зависит не только от значения слов. Важную роль играют ирония, шутки, местные выражения, правила вежливости и изображения. Поэтому система ИИ может правильно понять отдельные слова, но не понять культурный смысл сообщения. В статье рассматриваются причины таких недоразумений и их влияние на межкультурное общение. Приведены примеры из предоставленного материала об Узбекистане, Иране, Великобритании и Японии, а также выводы научных исследований о культурных особенностях языковых моделей. Предлагаются практические решения: расширение местных языковых данных, анализ текста вместе с изображениями, уточняющие вопросы и проверка результатов носителями языка.

Ключевые слова: *искусственный интеллект, цифровая коммуникация, культура, прагматика, ирония, сарказм, многоязычие, перевод.*

Annotatsiya

Sun'iy intellekt tarjima, matn yoziş, onlayn xizmat va ijtimoiy tarmoqlarda keng qöllanmoqda. Lekin muloqot mazmuni faqat sözlarning lug'aviy ma'nosiga bog'liq emas. Kinoya, hazil, mahalliy iboralar, odob qoidalari va rasmlar ham muhim ahamiyatga ega. Şu sababli sun'iy intellekt xabardagi sözlarni tuşunsa ham, uning madaniy ma'nosini notög'ri talqin qilişi mumkin. Maqolada bunday tuşunmovçiliklarning sabablari va ularning madaniyatlararo muloqotga ta'siri körib çiqiladi. Özbekiston, Eron, Buyuk Britaniya va Yaponiya misollari, şuningdek, madaniy tarafkaşlik va kinoya haqidagi ilmiy tadqiqotlar tahlil qilinadi. Mahalliy til ma'lumotlarini köpaytiriş, matn va tasvirni birgalikda tahlil qiliş, aniqlaştiruvçi savollar beriş hamda natijalarni ona tilida sözlaşuvçilar bilan tekşiriş tavsiya etiladi.

Kalit sözlar: *sun'iy intellekt, raqamli muloqot, madaniyat, pragmatika, kinoya, köp tillilik, tarjima.*

Introduction

Digital communication connects people who live in different countries and speak different languages. A person can send a message, publish a joke or share a picture with people across the world in a few seconds. AI tools can make this communication easier by translating text, suggesting replies and explaining unfamiliar expressions. At the same time, these tools can make mistakes when a message depends on local knowledge or an indirect meaning.

The problem is important because people do not always say exactly what they mean. For example, a person may write "Great job!" to praise someone, but the same words can express criticism when a task has gone badly. A joke can also depend on a local custom, a shared memory or a particular image. If an AI system ignores these details, it may give a wrong translation or describe the speaker's feelings incorrectly.

The aim of this article is to explain, in simple terms, how cultural misunderstanding can happen in AI-supported digital communication and to suggest ways to reduce it. The main tasks are to describe common causes, discuss examples from different cultures, review relevant research and offer practical recommendations for users and developers.

1. Culture and meaning in digital communication

Culture includes shared habits, values, social rules, humour and ways of speaking. These features influence how people understand a message. Linguistics uses the term "pragmatics" for the study of how meaning changes with context and with the relationship between speakers. A sentence can have one literal meaning but a different meaning in a real situation.

AI language models learn patterns from large collections of text. They can produce fluent sentences and often provide useful translations. Yet fluency does not guarantee that the system has understood the speaker's intention. Tao and colleagues (2024), for example, compared the cultural values expressed by several widely used language models with survey data from different countries. They reported that the models' answers often resembled values common in English-speaking and Protestant European societies. They also found that adding cultural information to the prompt improved alignment for many countries and territories.

This result does not mean that every AI answer is biased or that one culture is better than another. It means that the examples used to train and guide a model can affect the kind of answer it gives. If some languages, regions or everyday communication styles are less represented in the data, their expressions may be harder for a model to interpret.

2. Why cultural misunderstandings happen

2.1. Sarcasm and irony

Sarcasm occurs when a speaker's intended meaning differs from the literal meaning, often to criticise or make a joke. Imagine a person standing in a cold, rainy street who writes, "What wonderful weather!" A literal reading sounds positive, but the situation suggests the opposite. A text-only system may focus on words such as "wonderful" and miss the criticism.

Research by Jang and Frassinelli (2025) examines cases where the speaker intends sarcasm but readers do not recognise it. Their work shows that sarcasm can be difficult for both people and language models, especially when the intended tone is not clear. This matters for social media, where short captions often lack the wider conversation that would explain the joke.

2.2. Local expressions and mixed languages

People often combine languages in everyday speech. In Uzbekistan, for example, a message may include Uzbek words, Russian phrases and informal slang. This is a normal part of communication for many speakers, not necessarily a mistake. But a system trained mainly on formal or single-language text may translate the words separately and miss the social meaning of the whole message.

The supplied document gives an Uzbek example about inviting friends to a choyxona while joking about paying for everyone despite having an empty wallet. The humour depends on the contrast between the confident invitation and the image of financial difficulty. The document suggests that local conversational examples and code-mixed language data could help AI recognise this kind of joke. This is an illustrative example, not a reported controlled experiment.

2.3. Politeness rules and indirect meaning

Polite language does not work in exactly the same way in every culture. In some situations, a phrase that sounds like a direct offer may be part of a social ritual, and the listener is expected to understand the wider custom. The supplied document describes taarof, a Persian politeness practice, through an example in which a phrase meaning "Please, be my guest" is paired with a taxi fare. Read without cultural knowledge, the words could be taken as a literal offer to pay.

Such examples show why translation needs context. A dictionary can explain what a phrase means word by word, but it may not explain what people usually do when they hear it. AI systems should therefore avoid presenting one interpretation as certain when a phrase may have a special cultural use.

2.4. Images and text can tell different stories

Online communication often combines a photograph, a meme and a short caption. The picture may show something negative while the words describe it positively. The supplied document gives an example of a snowy Uzbek street lit by a small fire, with a caption that sarcastically thanks someone for "solving" electricity and gas problems. If the text is read alone, it may look grateful. When the image and local context are considered together, it can be understood as criticism.

A related example in the same document describes a rainy London street with the caption "Absolute scorcher today." The phrase is positive on the surface, but the weather in the picture suggests dry humour. These examples show that AI needs to consider both words and images. They do not prove that every model will make the same mistake; they demonstrate situations in which context is essential.

3. What research tells us

Research on cultural understanding in AI is growing. Tao et al. (2024) found evidence of cultural bias in the values expressed by several large language models and reported that cultural prompting often improved their responses. Their study supports a practical point: users can sometimes get a more suitable answer by naming the relevant country, community or situation in their request.

Liu et al. (2024) studied multilingual models' understanding of proverbs and sayings. Their results showed that knowing a proverb does not always mean that a model can use or interpret it correctly in a conversation. They also reported a "culture gap" when sayings from different languages were involved. This is important because proverbs often carry meanings that cannot be understood by translating each word separately.

Wagner and colleagues (2025) examined ChatGPT's conversational pragmatics, including cultural sensitivity. Their analysis found limits in how the system followed the context and social expectations in some conversations. The authors argue that AI should be treated as a tool rather than as a human conversation partner. This is a

useful reminder for students and professionals: an answer may sound confident while still missing a social or cultural detail.

Taken together, these studies suggest that cultural misunderstanding is not only a translation problem. It also concerns the model's training data, the context provided by the user, the task being performed and the way the result is checked. AI can help with cross-cultural communication, but its performance should be evaluated in real situations and across more than one language.

4. Practical ways to reduce misunderstanding

First, AI developers should include more examples from local languages, dialects, informal speech and online culture. These examples should be reviewed by speakers who understand the community, not collected without context. For Uzbekistan, this can include Uzbek written in Latin and Cyrillic scripts, Uzbek-Russian code-switching, local jokes, proverbs and common social-media expressions.

Second, systems should examine the full situation where possible. If a user shares an image with a caption, the model should compare the meaning of the text with visible details in the image. If they conflict, the system can explain that the caption may be ironic instead of choosing a positive or negative label too quickly.

Third, AI should be able to express uncertainty. For example, it could say: "This may be sarcasm, but the meaning depends on the local context." It can then ask who the audience is or what happened before the message was posted. Asking a short question is often better than giving a confident but incorrect interpretation.

Fourth, evaluation should include people from the cultures being discussed. A system that performs well on standard English may not work equally well with Uzbek slang or a local proverb. Developers and researchers should compare model responses with judgments from local speakers and publish both strengths and limitations.

Finally, users should check important messages before sending or acting on them. AI can suggest a translation, but a person should review it when the message concerns work, education, public services or a sensitive cultural issue. Users can help by giving context, such as the intended audience, the relationship between speakers and whether the message is meant as a joke.

5. Discussion

The examples and studies discussed here point to a simple conclusion: communication is not only about words. It is also about shared knowledge, relationships and the situation in which a message appears. AI systems are useful because they can process large amounts of language quickly. However, they do not automatically share the life experience of the people whose messages they process.

A practical solution does not require AI to "know" every culture perfectly. Instead, it requires better local data, context-aware tools, careful testing and honest

communication about uncertainty. Cultural groups are also not uniform: people within one country can differ by age, region, education and personal experience. Therefore, a system should not assume that every Uzbek, Iranian, British or Japanese speaker follows the same rules. Local knowledge should guide interpretation, not become a stereotype.

The examples from the supplied document are useful for discussion because they show different types of possible misunderstanding: political irony, mixed-language humour, polite indirectness and visual-textual contradiction. However, these cases should be treated as examples for analysis rather than statistical evidence of how often AI systems fail. More systematic research would be needed to test specific models, compare languages and measure error rates.

Conclusion

AI tools can support translation and communication between people from different cultures, but they can also misunderstand irony, local expressions, politeness and the relationship between text and images. Research has found cultural patterns in language-model outputs and weaknesses in the interpretation of proverbs, sarcasm and conversational context. These findings show that fluent language is not the same as full cultural understanding.

The most useful steps are to improve local-language training data, include examples of informal and mixed-language communication, analyse text together with images, ask clarifying questions and test systems with local speakers. Users should also remember that AI is an assistant, not a final authority on cultural meaning. With these precautions, AI can become a more helpful tool for respectful and clear digital communication.

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