DOI: https://10.5281/10.5281/zenodo.17685867

AI-DRIVEN CODE-SWITCHING PATTERNS IN UZBEK–ENGLISH DIGITAL COMMUNICATION

Mamadjanova Sabinabonu Sadikovna
Teacher at World languages department at Kokand University

Botirov Husan Olim o‘g‘li
Assistant teacher at UzSWLU

ANNOTATION

This article explores how artificial intelligence technologies particularly machine translation systems, predictive text models, and large language models shape and transform code-switching practices among Uzbek-English bilingual users in digital spaces.

Keywords: *AI, code-switching, Uzbek–English bilingualism, digital discourse, machine translation, predictive text, language contact, online communication.*

АННОТАЦИЯ

В данной статье исследуется, каким образом технологии искусственного интеллекта — в частности системы машинного перевода, модели прогнозирующего ввода и большие языковые модели — формируют и трансформируют практики переключения кодов среди узбекско-английских билингвов в цифровой среде.

Ключевые слова: *искусственный интеллект; переключение кодов; узбекско-английский билингвизм; цифровой дискурс; машинный перевод; прогнозирующий ввод; языковой контакт; онлайн-коммуникация.*

ANNOTATSIYA

Ushbu maqolada sun'iy intellekt texnologiyalari - xususan, mashina tarjimasi, matnni taxminlash tizimlari va yirik til modellari - o'zbek-ingliz ikki tilli foydalanuvchilarining raqamli makondagi kod-almashuv amaliyotlariga qanday ta'sir ko'rsatayotgani tahlil qilinadi.

Kalit so'zlar: *SI, kod-almashuv, o'zbek–ingliz ikki tilliligi, raqamli nutq, mashina tarjimasi, matnni taxminlash, til aloqasi, onlayn kommunikatsiya.*

Introduction.

The rise of artificial intelligence (AI) in everyday communication tools whether through smartphones, predictive keyboard apps, search engines, or social media platforms has dramatically reshaped the way people use language, especially in multilingual environments. What once might have taken hours of searching, translating, or careful phrasing can now happen almost instantaneously, with AI suggesting words, expressions, or even entire sentences. [1] For Uzbek internet users, this means encountering a constant stream of English-based suggestions and global slang alongside traditional Uzbek vocabulary. The result is a linguistic landscape that is both fluid and playful: people mix, remix, and experiment with words in ways that reflect their personal style, creativity, and social identity. AI doesn't just make communication faster it subtly nudges language toward hybrid forms, influencing the rhythms, humor, and cultural references of everyday online interactions. In effect, it turns ordinary digital spaces into laboratories of language innovation, where the personal, the local, and the global all meet in the chat window, comment section, or post.

Literature review.

This section explores classical code-switching theories and examines how modern AI technologies are transforming language practices in digital contexts. Traditionally, code-switching the alternation between two or more languages within a conversation

[1] Auer, P. (2013). Code-Switching in Conversation. Routledge.

has been studied as a sociolinguistic strategy, reflecting identity, social status, or contextual needs. In multilingual environments like Uzbekistan, speakers often move fluidly between Uzbek, Russian, and increasingly English, particularly in informal online communication. However, the rise of AI introduces a new layer to this dynamic. Tools such as predictive keyboards, machine translation, and AI chatbots do more than facilitate multilingual communication they actively suggest vocabulary, offer phrasing, and even normalize hybrid constructions that blend languages in novel ways. As a result, AI is not just a passive medium for code-switching; it becomes an agent in the evolution of language itself, subtly shaping how people express identity, creativity, and social belonging in the digital sphere.

AI-Induced Code-Switching in Uzbek–English Digital Communication.

AI tools are increasingly shaping the ways people write, speak, and interact online by influencing predictive text, translation patterns, social media exposure, and the emergence of hybrid Uzbek-English forms. Predictive keyboards and autocorrect suggestions nudge users toward certain words or expressions often drawing from English-language data so that even casual messages can become sites of linguistic experimentation. [1]Machine translation and AI-assisted communication allow users to access global content in seconds, introducing new vocabulary, idioms, and stylistic conventions that can be adapted into Uzbek. Meanwhile, social media algorithms expose users to trending memes, slang, and hybrid expressions from around the world, creating shared digital reference points that accelerate the adoption of new forms. Over time, these combined AI-mediated influences foster a living, evolving hybrid language, where English-origin elements are creatively merged with Uzbek grammar and phonetics, reflecting both global cultural currents and local identity.

Sociolinguistic Dimensions.

AI-driven code-switching is having a profound impact on Uzbek bilingual users, influencing not only how they communicate but also how they perceive and express their cultural identities. By suggesting or normalizing the insertion of English words

[1] Crystal, D. (2011). Internet Linguistics. Routledge.

and phrases into Uzbek discourse, AI tools can make communication faster and more efficient, especially in digital spaces where brevity and speed are valued. At the same time, this blending of languages allows users to craft a distinct bilingual identity, signaling modernity, global awareness, and digital fluency to their peers. However, the pervasive influence of AI also raises questions about cultural preservation: as English and other global linguistic elements become increasingly integrated, Uzbek speakers must negotiate a balance between embracing innovative hybrid forms and maintaining the richness of their native language. In this way, AI-driven code-switching is not merely a technical phenomenon it is a social and cultural force that shapes the ways individuals perform identity, maintain cultural ties, and navigate the demands of a globalized digital world.

Research methodology.

The study proposes a multi-faceted methodology combining qualitative discourse analysis, corpus-based approaches, and AI-human comparison models to explore hybrid linguistic practices in Uzbek online spaces. Qualitative discourse analysis allows researchers to examine how users creatively mix languages, employ slang, and negotiate identity in specific conversational contexts, capturing the nuances of tone, humor, and style that quantitative methods alone might miss. [1]Corpus-based methods provide a large-scale view of patterns in digital communication, tracking the frequency, distribution, and evolution of English loanwords, hybrid forms, and slang across social media, messaging platforms, and forums. Finally, AI-human comparison models offer insight into the interplay between human creativity and algorithmically generated suggestions, revealing how AI tools influence vocabulary adoption, stylistic choices, and the formation of hybrid expressions. Together, these complementary approaches enable a holistic understanding of how AI shapes language use, blending empirical rigor with attention to the lived experiences of digital Uzbek speakers.[2]

[1] García, O., & Wei, L. (2014). Translanguaging. Palgrave Macmillan.

[2] Goncharov, A., Kondusov, N., & Zaytsev, A. (2025) “Language steering in latent space to mitigate unintended code-switching.”.

Analysis and results.

The analysis reveals several notable trends in Uzbek digital communication, highlighting the transformative role of AI on language use. First, there is a marked increase in lexical borrowing, with English words and phrases rapidly entering everyday online conversations, often in modified or transliterated forms. Second, hybrid syntax formation is emerging as users creatively blend Uzbek grammatical structures with English vocabulary, producing novel constructions that reflect both linguistic innovation and playful experimentation. [1]Finally, AI's pervasive influence shapes not only what words are used but also how they circulate, normalizing certain expressions and accelerating trends within youth communities. These shifts indicate that AI is not merely a tool for communication but an active force in defining youth linguistic norms, guiding the evolution of style, slang, and hybrid forms in real time.

Conclusion.

AI is playing a significant role in shaping Uzbek-English code-switching, influencing not only the way people communicate but also how they perceive themselves and engage with broader cultural trends. By suggesting or normalizing English words and expressions alongside Uzbek in everyday digital interactions through predictive keyboards, chatbots, and algorithmic content recommendations AI exposes users to global linguistic patterns that they might not encounter otherwise. This constant exposure encourages creative mixing of languages, which becomes a tool for expressing modern identity, signaling digital fluency, and participating in global youth culture. At the same time, AI-mediated code-switching helps establish new linguistic norms, as frequently suggested or widely circulated hybrid forms become normalized within online communities. In this way, AI is not just a background technology it actively shapes the rhythms, vocabulary, and social meanings of Uzbek-English communication in the digital age.

[1] Saodatjon Yuldosheva. "Сопоставительное исследование интернет-дискурса (на примере русского и узбекского языков)." Ta'lim innovatsiyasi va integratsiyasi.

REFERENCES

1. Auer, P. (2013). Code-Switching in Conversation. Routledge.

2. Crystal, D. (2011). Internet Linguistics. Routledge.

3. García, O., & Wei, L. (2014). Translanguaging. Palgrave Macmillan.

4. Goncharov, A., Kondusov, N., & Zaytsev, A. “Language steering in latent space to mitigate unintended code-switching.” arXiv (2025).

5. Kumar, R., & Rose, C. (2020). Conversational AI and multilingual usage. Computational Linguistics.

6. Kononova, I. “Грамматическая адаптация новейших глагольных заимствований из английского языка в узбекский.” Иностранные языки в Узбекистане, № 2 (55), 2024.

7. Laureano De Leon, F., Madabushi, H. T., & Mark, L. “Code-Mixed Probes Show How Pre-Trained Models Generalise On Code-Switched Text.” arXiv (2024).

8. Madhusmanov, K. A. “Заимствование как способ пополнения лексического состава узбекского языка в области IT-технологий”. Russian Linguistic Bulletin (2025).

9. Makhmudova, O. “Social Aspects of English Borrowings in the Russian and Uzbek Languages.” Education and Innovation Research (2021).

10. Samanta, B., Reddy, S., Jagirdar, H., Ganguly, N., & Chakrabarti, S. “A Deep Generative Model for Code-Switched Text.” arXiv (2019).

11. Saodatjon Yuldosheva. “Сопоставительное исследование интернет-дискурса (на примере русского и узбекского языков).” Ta’lim innovatsiyasi va integratsiyasi.