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THE LANGUAGE OF ARTIFICIAL INTELLIGENCE: LINGUISTIC AND SOCIOLINGUISTIC ANALYSIS OF AI-RELATED NEOLOGISMS (2016-2025)

Summary. *The study investigates the linguistic and sociolinguistic characteristics of neologisms related to artificial intelligence, which emerged between 2016 and 2025, focusing on their formation patterns, semantic fields, and sociocultural implications within the context of technological advancement.*

The research combines linguistic and sociolinguistic approaches to analyze over 30 AI-related neologisms collected from technical publications, academic journals, media articles, and tech blogs. The methodological framework includes morphological analysis of word-formation processes, semantic field categorization, and sociolinguistic examination of techno-social context, register variations, and discourse communities.

The research presents the first systematic analysis of AI-related neologisms combining linguistic and sociolinguistic perspectives within 2016-2025. The study introduces an original analytical framework for examining how technological advancement influences language evolution, particularly in vocabulary formation and semantic expansion. It demonstrates the bidirectional relationship between linguistic innovation and societal attitudes towards AI technology.

The study reveals various word-formation processes in AI-related neologisms, demonstrating language’s adaptability to emerging technological concepts. The findings show that these neologisms serve multiple functions beyond terminology, acting as indicators of societal attitudes and facilitating public discourse on AI technology. The research establishes the migration of technical terms into mainstream usage and highlights the role of metaphorical conceptualization in making complex AI concepts accessible. The evolution of AI-related vocabulary reflects societal debates about AI development and implementation, suggesting directions for future research.

Key words: *artificial intelligence, neologisms, linguistic innovation, sociolinguistic analysis, word formation.*

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МОВА ШТУЧНОГО ІНТЕЛЕКТУ: ЛІНГВІСТИЧНИЙ ТА СОЦІОЛІНГВІСТИЧНИЙ АНАЛІЗ НЕОЛОГІЗМІВ СФЕРИ ШІ (2016-2025)

Анотація. *Дослідження спрямоване на вивчення лінгвістичних та соціолінгвістичних характеристик неологізмів, пов'язаних зі сферою штучного інтелекту, що з'явились у період між 2016 та 2025 роками, з особливим акцентом на аналізі моделей їх формування, семантичних полів та ширших соціокультурних наслідків у контексті технологічного прогресу та пов'язаної з ним суспільної трансформації.*

У дослідженні використано комплексний підхід, що поєднує лінгвістичні та соціолінгвістичні методи аналізу понад 30 неологізмів, зібраних із технічних публікацій, академічних журналів, статей у засобах масової інформації та технологічних блогів. Методологічна структура включає морфологічний аналіз процесів словотворення, категоризацію семантичних полів та соціолінгвістичне дослідження техно-соціального контексту.

Стаття представляє перший систематичний аналіз неологізмів у сфері штучного інтелекту, який поєднує лінгвістичні та соціолінгвістичні погляди в межах 2016-2025 років. У ній запропоновано аналітичну структуру для дослідження та вивчення впливу технологічного прогресу на еволюцію мови. Продемонстровано двоспрямований зв'язок між лінгвістичними інноваціями та неоднозначним суспільним ставленням до розвитку технологій штучного інтелекту.

Дослідження виявляє різноманітні процеси словотворення в неологізмах, демонструючи адаптивність мови до нових технологічних концепцій. Встановлено, що неологізми виконують множинні функції, виступаючи індикаторами суспільного ставлення та посередниками публічного дискурсу щодо штучного інтелекту. Результати демонструють міграцію технічних термінів до сфери загальновживаних слів та підкреслюють роль метафоричної концептуалізації. Еволюція лексики відображає суспільні дискусії щодо розвитку та впровадження технологій штучного інтелекту, визначає напрями майбутніх досліджень.

Ключові слова: *штучний інтелект, неологізми, лінгвістичні інновації, соціолінгвістичний аналіз, словотворення.*

1. Articulation of issue:

The rapid development of artificial intelligence (AI) has not only brought immense transformations to various sectors of society and economy, but has also significantly impacted language. As the new AI concepts and technologies emerge, so does the need for new vocabulary to describe them. This study describes and studies over 30 AI-related neologisms created between 2016 and 2025, a recent period marked by significant advancements in AI technology and its increasing integration into our life.

2. Recent publications:

As the researchers say, we are already a part of an era, in which "the futuristic and fantastical notions of science fiction are coming true due to advances in artificial intelligence, machine learning, wearable technology, and real-time data analysis" (Kelly-Holmes, 2024, p. 4). Other scholars acknowledge that "ChatGPT is now so omnipresent that we have to understand it as a cultural force" (Maly, 2024, p. 12). Interestingly, the corpus analysis of news articles from 1986 to 2016 reveals that "mentions of AI have increased, the general population has become more optimistic about AI, and concerns over the loss of control of AI are increasing" (Fast and Horvitz, as cited by Toney, 2021).

3. Objectives:

1. To identify and categorize AI-related neologisms from the specified period;

2. To analyze these neologisms from linguistic and sociolinguistic angles;

3. To explore how these new terms reflect and potentially influence societal attitudes towards AI.

4. Presentation:

The AI-related neologisms under consideration have been collected from a number of sources including technical publications, academic journals, mainstream media articles, and online tech blogs. The time frame was limited to terms coined between 2016 and 2025. The collected terms were studied using linguistic analysis (by examining word formation processes, morphological patterns, syntactic roles, and semantic fields), and sociolinguistic analysis (by investigating the techno-social context, register and domain, discourse communities, language change and diffusion, metaphorical conceptualization, and attitudinal aspects).

The analysis of AI-related neologisms reveals both linguistic and sociolinguistic patterns and implications, showing how language keeps evolving to deal with the rapid technological advancement while reflecting people's changing attitudes toward AI technology.

4.1 Formation and Structure of AI-Related Neologisms

4.1.1 Linguistic Innovation and Word Formation

AI-related neologisms have been created using various formation processes that show both linguistic creativity and the need for precise technical terminology. These processes include the following:

Acronyms and Initialisms: Technical terms like "AGI" (Artificial General Intelligence), "XAI" (explainable AI), and "RLHF" (Reinforcement Learning from Human Feedback) prove the tendency toward abbreviated forms. Business-oriented terms such as "AIaaS" (Artificial Intelligence as a Service) and "BYOAI" (Bring Your Own Artificial Intelligence) show how AI terminology adapts existing technical conventions ("as a Service") to new contexts and even tends to use casual, humorous models ("Bring Your Own Bottle").

Blending and Compounding: Compound terms such as "decision intelligence", "intention economy", "agentic AI", and "voice cloning" combine existing words to describe new capabilities, while keeping relative clarity for non-expert audiences. Creative combinations appear in terms like "AIgiarism" ("AI" + "plagiarism"), "fraudbot" (fraud + chatbot), "viewbot" (view + chatbot), or "aidbot" (aid + chatbot) reflecting the popularity of AI assistants in the modern world: *Hania created the "**aidbot**" to narrow the gap between the demand and supply of aid. The **aidbot** is a chatbot – a type of AI system designed to communicate with its users online – that links to WhatsApp. It is programmed to ask simple questions about the types of aid people require along with their names and locations. (bbc.co.uk/news, 11 January 2025)*

Semantic Extension: Our examples show the tendency for "strategic repurposing" of existing terms: "ground" has acquired the specialized meaning of "providing an AI model with factual data," while "slop" has evolved to describe low-quality AI-generated content. It demonstrates how language users adapt familiar concepts to describe new technological phenomena.

Morphological Features: The formation of these terms often uses specific morphological strategies:

- Prefixation: "de-" in "decel" to show opposition to rapid AI progress, as well as "super-" in "artificial superintelligence" to signal a qualitative leap beyond mere intelligence – not just slightly better, but fundamentally different;
- Attributive modification: "affective AI," "virtual being";
- Functional flexibility: Terms that can operate as both nouns and verbs, like the above-mentioned "ground".

4.1.2 Syntactic Integration and Semantic Fields

The AI-related neologisms demonstrate clear patterns in their syntactic roles and semantic groupings, underlining both the technical complexity of AI and its societal impact. These patterns emerge from the need to describe new technological prospects and possibilities while making them accessible to various audiences.

Syntactic Roles. Most of the AI neologisms function primarily as nouns, serving to categorize certain concepts within the field. Terms like "affective AI," "decision intelligence," and "AGI" are used as technical designators for distinct technological features and concepts. Some of them show signs of syntactic flexibility, functioning in several grammatical roles. For example, "ground" operates as a verb in technical contexts, demonstrating how AI terminology adapts to different linguistic needs: *As we start to see more applications built upon foundational AI models — we will also see an increase in the use of external datasets, articles, networks and databases to "**ground**" the model to factual data and relevant user context. (medium.com, March 2022)*

The collected examples show a pattern of attributive modification, where adjectives combine with nouns to create more specialized terms. Examples include "temporal drift," "virtual being," and "affective AI," allowing for precise technical descriptions while maintaining linguistic accessibility (Zheng et al., 2024). This pattern reflects the field's need to differentiate between related concepts and capabilities.

Semantic Fields. There are several distinct semantic domains that reflect both technical and social aspects of the AI development:

1. *Technical Capabilities and Functions*: Terms in this category describe specific AI abilities and methodologies. For example, "affective AI" describes systems capable of emotional interpretation, while "decision intelligence" and "intention economy" mean the AI-enhanced organizational decision-making and human economic behavior prediction. This category also includes core technical terms like "deep learning" and "RLHF," which define principal technological approaches.

2. *System Behaviors and Limitations*: This field contains terms describing AI system behaviors, especially their limitations and possible issues. The term "model collapse" means quality degradation in AI outputs, while "hallucination" refers to the generation of responses that seem plausible but are false (Prćić, 2023, p. 259-260).

3. *Impact On Society and Risk Assessment*: Terms such as "p(doom)" and "e/acc" reflect societal debates about AI development. "P(doom)" is a humorous way of expressing the opinion that AI will lead to the extinction of humanity, while "e/acc" (effective accelerationism) denotes a movement that encourages the unrestrained development of AI and other promising technologies. Contrasting with this perspective is the term "decel," which describes people who believe that AI progress should be slowed down.

4. Ethical and Marketing Practices: Terms like "AI washing" show concerns about the ethical implications of the massive use of AI. This term, stemming from "greenwashing" (a deceptive practice of marketing products or companies as "green" while making misleading claims about their environmental impact), shows skepticism about the use of AI: ***AI washing*** *is a marketing tactic companies employ to exaggerate the amount of AI technology they use in their products. The goal of* ***AI washing*** *is to make a company's offerings seem more advanced than they are and capitalize on the growing interest in AI technology. (techtarget.com, 29 February, 2024).*

This semantic organization displays how AI terminology serves multiple purposes: defining technical concepts, showing societal concerns, and simplifying the discourse about AI's widespread use. The interaction between these fields demonstrates the relationship between technical innovation and social response.

4.2 Sociolinguistic Dimension and Usage Patterns

4.2.1 Register Variation and Discourse Communities

The evolution of AI terminology reflects interactions between different user communities and contexts. Technical terms originating in research environments (like "RLHF" and "deep learning") coexist with more colloquial expressions ("stochastic parrot" or "slop") that often have emotional connotations: *Your email inbox is full of spam. Your letterbox is full of junk mail. Now, your web browser has its own affliction:* ***slop****. "****Slop****" is what you get when you shove artificial intelligence-generated material up on the web for anyone to view. Unlike a chatbot, the slop isn't interactive, and is rarely intended to actually answer readers' questions or serve their needs. (theguardian.com, 19 May 2024)*

Different communities create their own vocabularies:

- Research community: Technical terms focusing on methodologies and capabilities;
- Business sector: Terms related to implementation and commercialization;
- Public discourse: More accessible terms often incorporating metaphorical elements;
- Critical discourse: Terms expressing concerns about the impact of AI (Toney, 2021; De Cremer, 2021).

This variation in register and usage patterns shows how AI terminology can be adapted to serve different communication needs while simultaneously simplifying both specialized and general discourse about AI technology.

4.2.2 Metaphorical Conceptualization and Attitude Expression

The AI-related neologisms can also reflect a range of attitudes that exist in the society, regarding this technology, from outright fascination to certain skepticism (Maly, 2024, p. 12; Hao, 2024), and metaphors play a vital role in making AI concepts more understandable to broad audiences.

Terms like "stochastic parrot" use familiar ideas and images (comparing large language models to parrots that mimic speech without comprehension) to criticize AI capabilities, while "ground" uses the physical experience to explain technical processes. These metaphorical associations serve as bridges between technical details and the understanding of the general public: *ChatGPT is the latest version of a type*

*of generative AI called large language models (LLMs). These models are very large (and deep) neural networks that are notoriously expensive to train. Such models have been called "**stochastic parrots**" because they have no understanding of what they say. They can't tell you where their answers come from and will propagate misinformation if [they have] enough frequency and buzz. (forbes.com, 6 June 2023)*

The vocabulary reflects different attitudes toward AI technology:

- Innovation-focused terms ("decision intelligence," "intention economy", "Industry 4.0");
- Critical or cautionary terms ("p(doom)," "fraudbot", "AI washing", "AIgiarism");
- Technical-ethical concepts ("authentic intelligence", a retronym to denote human thinking capabilities).

4.2.3 Language Change and Social Impact

The quick rise and wide acceptance of these neologisms demonstrate language's adaptability to technological shifts. The migration of terms from technical to general use shows AI's growing influence on society and the need for a simple, clearer vocabulary to discuss its possible effects and consequences.

The sociolinguistic analysis shows how the birth and spread of AI-related neologisms tie closely to the broad techno-social context, discourse communities, and the attitudes of different groups within the society. These linguistic trends not only reflect but also help shape how people understand AI, forming the discourse and the debates surrounding this technology.

5. Conclusions:

This study explains how language adapts to describe and conceptualize new technological realities in the quickly evolving field of artificial intelligence. The analysis of AI-related neologisms reveals not only linguistic creativity but also reflects public skepticism about AI technology.

The findings are important for both linguistics and AI studies. For linguistics, they show the ways in which language evolves to adapt the new concepts. From an AI perspective, they provide a way to view public understanding and perception of AI technology. Future research could expand on this work by means of quantitative analyses of term frequency and usage patterns in different sources, as well as examining how these terms are understood by various strata of society.

As AI continues to develop and spread deeper into our lives, ongoing study of AI-related language will remain vital for understanding both linguistic evolution and societal attitudes towards this technology.

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