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FACTORS FOR INCREASING THE PRESTIGE OF THE UZBEK LANGUAGE AS A STATE LANGUAGE AND THE ROLE OF ARTIFICIAL INTELLIGENCE IN THIS PROCESS

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Abstract

This article analyzes the factors for increasing the prestige of the Uzbek language as a state language and highlights the role of artificial intelligence technologies in this process. Regulatory legal documents adopted during the independence period are assessed as the main factor in strengthening the status of the language. Furthermore, the article examines the possibilities and existing challenges of artificial intelligence in integrating the Uzbek language into modern information and communication technologies and enhancing its scientific and technical potential. The research results outline the prospects for the digital transformation of the Uzbek language.

Keywords: State language, Uzbek language, artificial intelligence, digital transformation, language policy, linguistic resources, natural language processing.

INTRODUCTION

Relevance of the Problem. Language is one of the most important factors expressing the identity, culture, and way of thinking of every nation. After gaining independence, the Uzbek language, having acquired the status of a state language, not only set the task of preserving national identity but also adapting to modern scientific and technical progress.

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In the first quarter of the 21st century, the rapid development of information technologies has brought all languages to a new stage — the stage of digital transformation. Today, the prestige of a language is measured not only by the number of its speakers or the richness of its literary heritage, but also by the degree of its integration with modern technologies, particularly artificial intelligence systems.

From this perspective, the issue of increasing the prestige of the Uzbek language as a state language should be considered in two important directions: firstly, legal and socio-political factors; secondly, technological factors, i.e., the level of the language's participation in artificial intelligence systems.

Aim and Objectives of the Research. The main aim of this article is to systematically analyze the factors for increasing the prestige of the Uzbek language as a state language and to determine the role and potential of artificial intelligence technologies in this process.

The main objectives of the research are:

- To elucidate the theoretical foundations of the concept of state language prestige;
- To analyze the socio-political factors affecting the development of the Uzbek language during the independence period;
- To identify priority directions for language development in recent regulatory legal documents;
- To study the state of integration of the Uzbek language into artificial intelligence systems;
- To determine promising directions for increasing language prestige through artificial intelligence.

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Scientific Novelty of the Research. The scientific novelty of this work lies in the comprehensive approach to the issue of state language prestige — jointly analyzing traditional sociolinguistic factors and digital transformation factors. The study holistically examines the technical, linguistic, and social aspects of the integration of the Uzbek language into artificial intelligence systems.

LITERATURE REVIEW

The issue of the social status of language and factors of its development is one of the central problems of sociolinguistics. According to Zokirov and Rasulova, extralinguistic factors influencing language development include changes in the social structure of society, expansion of economic and production opportunities, changes in science, literature and art, modifications in the public administration system, and ideological processes.

During the independence period, the social environment of the Uzbek language changed fundamentally. According to the authors, "after independence, the social environment in the republic changed: the Uzbek language was granted the status of a state language, its social prestige began to increase, and it began to be used as an official language in all spheres of society and state institutions."

Gulyamova and Rasulmuhamedova's research examined the role of artificial intelligence technologies in language teaching. The researchers note that "the Uzbek language belongs to the Turkic language family and has its own characteristics. Its agglutinative morphology, rich system of word-forming affixes pose certain difficulties for AI systems, which requires the development of algorithms capable of efficiently analyzing and generating long chains of morphemes."

Allanazarova's research analyzed the main problems in the application of the Uzbek language in artificial intelligence systems. The study notes that "the limited participation of the Uzbek language in AI systems such as speech

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recognition, automatic text translation, chatbots and voice assistants is presented as a serious problem."

However, the existing literature lacks studies that holistically examine the factors for increasing the prestige of the Uzbek language as a state language together with artificial intelligence technologies. Filling this gap determines the relevance of this study.

MATERIALS AND METHODS

Object of Research. The object of research is the set of factors determining the status and prestige of the Uzbek language as a state language. In particular:

- Regulatory legal documents on language policy adopted during the independence period;
- Digital resources of the Uzbek language (electronic corpora, dictionaries, software);
- The level of participation of the Uzbek language in artificial intelligence systems.

Research Methods. The following methods were used in the research:

- Regulatory legal analysis method — for studying laws and resolutions;
- Sociolinguistic analysis method — for assessing the social functions of the language;
- Comparative method — for determining the level of digital integration of the Uzbek language compared to other languages;
- Systematic analysis method — for comprehensive assessment of factors.

Theoretical Basis. The theoretical basis of the research is formed by the fundamental principles of sociolinguistics and computational linguistics. According to Bondaletov, "certain social conditions must exist for the development of a language in society." These social conditions are constantly changing, and as they change, the social functions of the language also expand.

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In the context of artificial intelligence, language prestige can be expressed by the following formula:

$$P = P_s + P_t$$

where:

P = overall prestige of the language;

P_s = socio-political prestige of the language (legal status, scope of use);

P_t = technological prestige of the language (participation in AI systems, volume of digital resources).

RESULTS

Theoretical Foundations of State Language Prestige. The prestige of a state language refers to its authority, dignity, and status in society relative to other languages. Language prestige is measured through the following indicators:

Indicator	Description
Legal status	Status defined in the Constitution and laws
Scope of use	Participation in public administration, education, science, culture, judiciary, healthcare
Scientific potential	The language's capabilities as a language of science
Digital integration	Participation in the Internet, software, AI systems
International prestige	Use in international organizations, study abroad

Factors Increasing the Prestige of the Uzbek Language During Independence.

Legal Factors. The law "On the State Language" adopted on October 21, 1989, granted the Uzbek language the status of a state language. Article 4 of the Constitution of the Republic of Uzbekistan, adopted in 1995, states that "the state language of the Republic of Uzbekistan is the Uzbek language."

The law adopted on October 21, 2020, established the main directions of state policy in the field of the Uzbek language. On October 20, 2025, President Sh.

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Mirziyoyev signed a decree "On additional measures for the further development of the state language and increasing its prestige." The decree sets the following priority tasks:

- Ensuring full and effective use of the state language in all spheres of social life;
- Improving the system of teaching the state language in educational institutions and increasing its status as a language of science;
- Preserving the purity of the state language and constantly expanding its vocabulary;
- Actively integrating the state language into modern information and communication technologies, effectively using the capabilities of artificial intelligence;
- Increasing the international prestige and authority of the state language, developing international cooperation.

Socio-Political Factors. Independence is assessed as the most important macro-social factor influencing the development of the Uzbek language. According to Zokirov and Rasulova, "independence itself redefined the social environment and the scope of language use. The Uzbek language, having acquired the status of a state language, began to be used in legal contexts, state bodies, academic research and mass media."

During the former Soviet era, the social status of the Uzbek language was weakened, and its social functions were limited. After independence, this situation changed fundamentally. The Uzbek language not only became the language of public administration but also gained the opportunity to become the main tool of science, education and culture.

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Evolution of the Regulatory Legal Framework. The following table analyzes the main documents adopted during the independence period regarding the development of the Uzbek language and their content:

Year	Document	Main content
1989	Law "On the State Language"	Granting the Uzbek language the status of a state language
1995	Constitution (Article 4)	Constitutional consolidation of the state language status
2020	Law "On the State Language" (new version)	Defining the main directions of language policy
2025	Presidential Decree (20.10.2025)	Implementation of artificial intelligence and digital technologies, launching the AI module in the "Ibrat Farzandlari" project

State of Integration of the Uzbek Language into Artificial Intelligence Systems

Existing Problems. There are a number of problems in the process of integrating the Uzbek language into artificial intelligence systems:

1. **Lack of digital resources:** The insufficient availability of electronic corpora, dictionary databases and semantic analysis tools for the Uzbek language leads to a lack of quality data for AI models.
2. **Linguistic features:** The agglutinative structure of the Uzbek language and the law of vowel harmony create additional difficulties for AI systems. According to Gulyamova and Rasulmuhamedova's research, "the agglutinative morphology of the Uzbek language, the rich system of word-forming affixes pose certain difficulties for AI systems, which requires the development of algorithms capable of efficiently analyzing and generating long chains of morphemes."

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3. **Limitations in speech recognition systems:** Speech recognition systems in the Uzbek language are not yet sufficiently developed. The participation of the Uzbek language in voice assistants and chatbots is limited.
4. **Quality of automatic translation:** The quality of automatic translation systems from Uzbek to other languages and vice versa is not yet at the required level.

Ongoing Work and Prospects. In accordance with the Presidential Decree, a program for implementing the Language Development Concept for 2025-2026 has been approved. The program sets the following tasks:

1. **Creation of a digital platform:** The Academy of Sciences will create an electronic platform using artificial intelligence elements that allows discussing, systematizing new words and terms, and placing them in dictionaries. A scientific project competition for this task is scheduled to be held by December 1, 2025.
2. **AI-based teaching module:** The Youth Affairs Agency will launch an AI-based module for teaching the Uzbek language within the framework of the "Ibrat Farzandlari" project.
3. **Multilingual dictionaries:** Creation of a unified access system to multilingual (English, Russian, etc.) dictionaries through an electronic platform.
4. **International conferences:** Holding an international scientific-practical conference on the topic "Development of the Uzbek Language" every October.

Promising Directions for Increasing Language Prestige through AI. Based on the analysis results, the following promising directions for increasing the prestige of the Uzbek language using artificial intelligence technologies have been identified:

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Direction	Tasks	Expected result
Natural Language Processing (NLP)	Morphological analysis, syntactic parsing, semantic analysis	Full processing capability of the Uzbek language in computer systems
Machine translation	High-quality automatic translation between Uzbek-Russian-English	Expanding international relations
Voice assistants	Uzbek language equivalents of Siri, Google Assistant, Alexa	Increasing language use in everyday technologies
Chatbots and virtual assistants	Uzbek language chatbots in public services	Increasing the efficiency of language use in official spheres
E-learning platforms	AI-based adaptive Uzbek language courses	Improving language teaching quality, quality education opportunities in rural areas

DISCUSSION

Interconnection of Legal and Social Factors. Research results show that legal factors and social factors are closely interrelated in increasing the prestige of the Uzbek language as a state language. Strengthening the legal framework leads to a change in attitudes toward the language in the social environment, which in turn expands the actual scope of language use.

According to Zokirov and Rasulova, "the change in the social environment of the Uzbek language after independence is directly related to the increase in its legal status." This interrelation forms a complex system of language prestige factors.

Ratio of Traditional and Digital Factors. In traditional sociolinguistic studies, language prestige was measured mainly by legal status and the level of social use. However, in modern conditions, technological factors — the language's participation in the Internet space and AI systems — are becoming an important component of prestige.

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Uzbekistan is taking important steps in this direction. The Presidential Decree of October 20, 2025, specifically notes the task of "actively integrating the state language into modern information and communication technologies, effectively using the capabilities of artificial intelligence."

Technical and Linguistic Difficulties of AI Integration. The integration of the Uzbek language into AI systems involves a number of technical and linguistic difficulties. Gulyamova and Rasulmuhamedova's research describes these difficulties as follows:

1. **Agglutinative morphology:** The agglutinative characteristic of the Uzbek language is manifested in its rich system of word-forming affixes. This requires special algorithms for analyzing and generating long chains of morphemes.
2. **Vowel harmony:** Special machine learning models that conform to the phonological rules of the language need to be developed.
3. **Free word order:** Although SOV is the basic order in the Uzbek language, the variability of word order creates additional difficulties in syntactic analysis.
4. **Dialectal diversity:** The existence of several dialects of the Uzbek language complicates the creation of universal AI systems.

Overcoming these difficulties requires a comprehensive approach — collaboration of linguists, programmers and data scientists.

International Experience and Its Application to the Uzbek Language. Many languages, particularly English, Spanish, Arabic, Chinese, and Japanese, are actively used in AI systems. The experience of these languages shows that the following conditions are necessary for a language to be integrated into AI systems:

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1. Large-scale digital corpora (text and voice);
2. Standardized linguistic annotation;
3. Open-source tools and libraries;
4. International cooperation.

Uzbekistan is taking initial steps in this direction. According to Allanazarova's research, "creating open-source language corpora, collecting data for language models, and developing international cooperation" are indicated as modern technological solutions to solve the problems.

CONCLUSION

This article analyzed the factors for increasing the prestige of the Uzbek language as a state language and highlighted the role of artificial intelligence technologies in this process. The research led to the following main conclusions:

1. **The increase in the prestige of the Uzbek language depends on legal and social factors.** Laws and resolutions adopted during the independence period, in particular the documents of 1989, 2020 and 2025, played a decisive role in strengthening the legal status of the language. These legal changes changed the social environment of the language and expanded its scope of use.
2. **In modern conditions, an important component of language prestige is the level of digital integration.** Along with traditional sociolinguistic factors, the language's participation in the Internet space and AI systems is becoming an important measure of prestige.
3. **The integration of the Uzbek language into AI systems involves a number of difficulties.** Linguistic features such as agglutinative morphology, vowel harmony, free word order and dialectal diversity, as well as the lack of digital resources, are the main problems.
4. **The tasks set by the Presidential Decree open up important prospects.** Measures such as creating an electronic platform using artificial intelligence elements and launching an AI module within the framework of the "Ibrat

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Farzandlari" project in accordance with the October 20, 2025 decree will give impetus to the digital transformation of the language.

Practical recommendations:

1. Establish a national corpus of the Uzbek language and a system for its constant updating;
2. Develop open-source NLP tools (morphological analyzer, syntactic parser, semantic analysis systems) and make them available to the international community;
3. Create speech recognition and synthesis systems in the Uzbek language;
4. Establish cooperation with international AI companies and research centers;
5. Improve the system of training specialists in computational linguistics in higher educational institutions.

Recommendations for future research:

- In-depth study of phraseology and semantic analysis of the Uzbek language;
- Experimental evaluation of the effectiveness of AI-based Uzbek language teaching platforms;
- Study of the possibilities of interaction of the Uzbek language with other Turkic languages in AI systems;
- Application of transfer learning and few-shot learning methods for low-resource languages.

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