ЕУРАЗИЯ ГУМАНИТАРЛЫҚ ИНСТИТУТЫНЫҢ

ХАБАРШЫСЫ

ВЕСТНИК

ЕВРАЗИЙСКОГО ГУМАНИТАРНОГО ИНСТИТУТА

BULLETIN

OF THE EURASIAN HUMANITIES INSTITUTE

№1/2025

Жылына 4 рет шығады 2001 ж. шыға бастаған

Выходит 4 раза в год Начал издаваться с 2001 г.

Published4 times a year Began to be published in 2001

Бас редактор Дауренбекова Л.Н.

А.Қ. Құсайынов атындағы Еуразия гуманитарлық институтының доценті, филология ғылымдарының кандидаты

Жауапты редактор Алимбаев А.Е.

А.Қ. Құсайынов атындағы Еуразия гуманитарлық институтының доценті, философия докторы (PhD)

Редакция алкасы

Аймұхамбет Ж.Ә. филология ғылымдарының докторы, профессор, Л.Н. Гумилев атындағы

ЕҰУ, Астана, Қазақстан

Ақтаева К. филология ғылымдарының докторы, профессор, А. Мицкевич атындағы

Польша университеті, Познань, Польша.

Әбсадық А.А. филология ғылымдарының докторы, профессор, А. Байтұрсынов

атындағы Қостанай өңірлік университеті, Қостанай, Қазақстан

Бредихин С.Н. филология ғылымдарының докторы, профессор, Солтүстік Кавказ

федералды университеті, Ставрополь, РФ

Гайнуллина Ф.А. филология ғылымдарының кандидаты, доцент Ә. Бөкейхан атындағы

университеті, Семей, Қазақстан

Ермекова Т.Н. филология ғылымдарының докторы, профессор, Қазақ ұлттық қыздар

педагогикалық университеті, Алматы, Қазақстан

Есиркепова К.Қ. филология ғылымдарының кандидаты, қауымдастырылған профессор,

А. Байтұрсынов атындағы Қостанай өңірлік университеті, Қостанай,

Қазақстан

Жүсіпов Н.Қ. филология ғылымдарының докторы, профессор, Торайғыров

университеті, Павлодар, Қазақстан

Курбанова М.М. филология ғылымдарының докторы, профессор, Алишер Наваи

атындағы Ташкент мемлекеттік өзбек тілі мен әдебиеті университеті,

Ташкент, Өзбекстан

Қамзабекұлы Д. ҚР ҰҒА академигі, филология ғылымдарының докторы, профессор,

Л.Н. Гумилев атындағы ЕҰУ, Астана, Қазақстан

Құрысжан Л.Ә. филология ғылымдарының кандидаты, профессор, Ханкук шетелтану

университеті, Сеул, Оңтүстік Корея

Онер М. философия докторы (PhD), профессор, Эгей университеті,

Измир, Туркия

Пименова М.В. филология ғылымдарының докторы, профессор, Шет ел тілдері

институты, Санкт-Петербург, РФ

Сайфулина Ф.С. филология ғылымдарының докторы, профессор, Қазан федералды

университеті, Қазан, Татарстан, РФ

Сенмез О.Ф. философия докторы (PhD), профессор, Токат Газиосманпаша

университеті, Токат, Түркия

Редакцияның мекенжайы: 010009, Астана қ., Жұмабаев даңғ., 4 **Телефон/факс:** (7172) 561 933: e-mail: eagi.vestnik@gmail.com, сайт: ojs.egi.kz

Еуразия гуманитарлық институтының Хабаршысы.

Меншіктенуші: «А.Қ. Құсайынов атындағы Еуразия гуманитарлық институты»

Қазақстан РеспубликасыАқпаратжәнеқоғамдықдамуминистрлігі Ақпарат комитетінде қайта есепке қойылды. Тіркеу № KZ92VPY00046970 17.03.2022

Басуға 27.03.2025 ж. қол қойылды. Пішімі 60*84 1\8. Қағаз офсеттік Көлемі. БТ.

Таралымы 200 дана. Бағасы келісім бойынша. Тапсырыс № 89

«Ақтаев У.Е.» баспасында басылып шықты

Главный редактор Дауренбекова Л.Н.

Кандидат филологических наук, доцент Евразийского гуманитарного института имени А.К. Кусаинова

Ответственный редактор Алимбаев А.Е.

Доктор философии (PhD), доцент Евразийского гуманитарного института имени А.К. Кусаинова

Редакционная коллегия

Аймухамбет Ж.А. доктор филологических наук, профессор, ЕНУ имени Л.Н. Гумилева,

Астана, Казахстан

Актаева К. доктор филологических наук, профессор, университет имени

Адама Мицкевича, Познань, Польша.

Абсадық А.А. доктор филологических наук, профессор, Костанайский региональный

университет имени А.Байтурсынова, Костанай, Казахстан

Бредихин С.Н. доктор филологических наук, профессор, Северо-Кавказский

федеральный университет, Ставрополь, РФ

Гайнуллина Ф.А. кандидат филологических наук, доцент университет имени А. Бокейхана,

Семей, Казахстан

Ермекова Т.Н. доктор филологических наук, профессор, Казахский национальный

женский педагогический университет, Алматы, Казахстан

Есиркепова К.К. кандидат филологических наук, профессор, Костанайский региональный

университет имени А. Байтурсынова, Костанай, Казахстан

Жусипов Н.К. доктор филологических наук, профессор, Торайгыров университет,

Павлодар, Казахстан

Курбанова М.М. доктор филологических наук, профессор, Ташкентский государственный

университет узбекского языка и литературы им. Алишера Навои,

Ташкент, Узбекистан

Камзабекулы Д. академик НАН РК, доктор филологических наук, профессор, ЕНУ имени

Л.Н. Гумилева, Астана, Казахстан

Курысжан Л.А. кандидат филологических наук, профессор, Университет иностранных

языков Ханкук, Сеул, Южная Корея

Онер М. доктор философии (PhD), профессор, Эгейский университет,

Измир, Турция

Пименова М.В. доктор филологических наук, профессор, Институт иностранных языков,

Санкт-Петербург, РФ

Сайфулина Ф.С. доктор филологических наук, профессор, Казанский федеральный

университет, Казань, Татарстан, РФ

Сенмез О.Ф. доктор философии (PhD), профессор, Университет Токат Газиосманпаша,

Токат, Турция

Адрес редакции: 010009, г. Астана., пр. Жумабаева, 4

Телефон/факс: (7172) 561 933: e-mail: eagi.vestnik@gmail.com, сайт: ojs.egi.kz

Вестник Евразийского гуманитарного института.

Собственник: «Евразийский гуманитарный институт имени А.К. Кусаинова».

Министерством информации и общественного развития Республики Казахстан Комитет информации постановлено на переучет № KZ92VPY00046970 17.03.2022

Подписано в печать 27.03.2025 ж. Формат 60*84 1\8. Бум. типогр.

Тираж 200. Цена согласовано. Заказ № 89

Напечатано в издательстве «У.Е. Актаева»

Chief Editor Daurenbekova L.N.

Candidate of Philological Science, Associate Professor of the A.K. Kussayinov Eurasian Humanities Institute

Editor-in-Chief Alimbayev A.E.

Doctor of Philosophy (PhD), Associate Professor of the A.K. Kussayinov Eurasian Humanities Institute

Editorial Board

Aimuhambet Zh.A. Doctor of Philological Sciences, Professor, L.N. Gumilyov ENU, Astana,

Kazakhstan

Aktayeva K. Doctor of Philological Sciences, Professor, Poznan Adam Mitskevich

University, Poznan, Poland

Absadyk A.A. Doctor of Philological Sciences, Professor, Kostanay Regional University

named after A.Baitursynov, Kostanay, Kazakhstan

Bredikhin S.N. Doctor of Philological Sciences, Professor, North-Caucasus Federal University,

Stavropol, RF

Гайнуллина Ф.А. Candidate of Philological Sciences, Associate ProfessorAlikhan Bokeikhan

University, Semey, Kazakhstan

Yermekova T.N. Doctor of Philological Sciences, Professor, Kaz. National Women's Pedagogical

University. Almaty, Kazakhstan

Yesirkepova K.K. Candidate of Philological Sciences, Professor, Kostanay Regional University

named after A.Baitursynov, Kostanay, Kazakhstan

Zhusipov N.K. Doctor of Philological Sciences, Professor, Toraighyrov University, Pavlodar,

Kazakhstan

Kurbanova M.M. Doctor of Philological Sciences, Professor, Tashkent State University of the

Uzbek Language and Literature named after Alisher Navoyi,

Tashkent, Uzbekistan

Kamzabekuly D. Academician of NAS RK, Doctor of Philological Sciences, Professor,

L.N. Gumilyov ENU, Astana, Kazakhstan

Candidate of Philological Sciences, Professor, Hankuk University of Foreign Kuryszhan L.A.

Studies Seoul Korea

Oner M. Doctor of Philological (PhD), Professor, Aegean University, Izmir, Turkey

Pimenova M.V. Doctor of Philological Sciences, Professor, Foreign Languages Institute,

St-Petersburg, RF

Seifullina F.S. Doctor of Philological Sciences, Professor, Kazan Federal University,

Kazan, Tatarstan, RF

Senmez O.F. (PhD), Professor, Tokat Gaziosmanpasa University, Tokat, Turkey

> Editorial address: 010009, Astana., 4, Prospect Zhumabayev Tel/Fax: (7172) 561 933: e-mail: eagi.vestnik@gmail.com, сайт: ojs.egi.kz

Bulletin of the Eurasian Humanities Institute.

Owner: «A.K. Kussayinov Eurasian Humanities Institute».

The Ministry of Information and Public Development of the Republic of Kazakhstan Information Committee decided to re-register No. KZ92VPY00046970 17.03.2022

Signed for printing 27.03.2025 Format 60 * 84 1 \ 8. Paper. Printing house

Circulation 200. Price agreed. Order No. 89

Printed in the publishing house of «U.E. Aktaev»

МАЗМҰНЫ / СОДЕРЖАНИЕ / CONTENTS

ТІЛ БІЛІМІ – ЯЗЫКОЗНАНИЕ – LINGUISTICS

БЕРГІБАЕВА Д.Қ., КЕНЖЕҒАЛИЕВ С.А., ӨМІРБЕКОВА Ж.Қ.	Жеке тұлғаның ділдік лексиконы	7
ЕРҒАЛИЕВ Қ.С., САРЫБАЕВА Б.Ж., УАЙХАНОВА М.А.	Ұлттық құндылықтардың интернет-түсіндірмелердегі көрінісі: дәстүр мен жаңашылдық	16
КЕМБАЕВА А.Т., ЖҰБАЙ О.С., ЖАКИПОВА М.Н.	Тілдік тұлға дискурсындағы когезия мен ретроспекция тәсілдері	25
MURATBAIEVA I.S., ABDRAKHMANOVA ZH.A.	Colorative vocabulary as a term-forming component in the composition of metaphorized terms (using the example of the adjective «golden»)	35
САДЕНОВА А.Е., АЙТБАЕВА Б.М., КАРЫБАЕВА С.Е.	Тіл меңгертудегі диалогтардың деңгейлік динамикасы	44
ШАЛШЫКБАЕВА Г.О., ДҮЙСЕКОВА К.К., БАКТИЯРОВА Р.М.	Авиация кәсіби дискурсының конститутивтік ерекшеліктері	54
ӘДЕБИЕТТАН	У – ЛИТЕРАТУРОВЕДЕНИЕ – LITERATURE STUDIES	
АБДИКАРИМ Н., АСҚАРОВА А.Ш., ҮМБЕТБЕКОВА К.М.	Абай өлеңдерінің поэтикалық ішкорпусын құрудың маңыздылығы	64
ABDYKHANOVA G.T., ABDYKADYROVA T.R., AGABEKOVA ZH.A.	M.KH. Dulaty and the people of art	73
АБИШЕВА Ш., КЕНБАЕВА А.З., ӘБДІМАНАПОВА М.Б.	Топонимдік аңыздар ертегілік емеспрозаның ерекше жанры ретінде (түркі халықтарының топонимдік аңыздары мысалында)	89
АЙТУГАНОВА С.Ш., САРСЕМБАЕВА С.А.	Қазіргі қазақ әңгімелеріндегі симулякрдың көркемдік қызметі (Д. Жылқыбайдың әңгімелері негізінде)	100
ӘБДІҒАППАРОВА Ж.Ж.	Отарлық кезеңдегі діни ахуал және Шайыр Шәдінің	110
	«Назым Сияр Шәриф» дастаны	

ҚОНДЫБАЙ М.М., ӘБДИМАНҰЛЫ Ө., ТИРАДО Р.Г.	Әнші-ақындар шығармашылығындағы сұлулық сипатының көркемдік ерекшелігі	132	
САУРЫҚОВ Е.Б., ТАМАБАЕВА Қ., ЕЛУБАЕВА Р.	Шерхан Мұртаза мен Шәкәрім Құдайберді діни тұжырымдарындағы ортақ сарындар	142	
СЕЙІТМАН С.М.	Абай елі мен алаш қаласының рухани сабақтастығы және қазақ поэзиясындағы бейнесі	155	
ТҰЯҚБАЙ Т., ТҰЯҚБАЕВА Р.	Абай мен Гёте: данышпандар диахрониясы	165	
ТІЛ ЖӘНЕ ӘДЕБИЕТТІ ОҚЫТУ ӘДІСТЕМЕСІ – МЕТОДИКА ПРЕПОДАВАНИЯ ЯЗЫКА И ЛИТЕРАТУРЫ – METHODOLOGY OF TEACHING LANGUAGE AND LITERATURE			
АУҒАНБАЕВА М.С., МАМАЕВА Г.Б.	Студенттердің сөйлеу мәдениетін дамыту әдістері	175	
TAUBAYEV ZH.T., SULTAN Y., DAUTOVA G.R.	The role of artificial intelligence in forming stereotypes in intercultural communication	185	

IRSTI 16.01.11

DOI https://doi.org/10.55808/1999-4214.2025-1.18



Al-Farabi Kazakh National University, Almaty, Kazakhstan^{1,3}
Abai Kazakh National Pedagogical University, Almaty, Kazakhstan²
(e-mail: certina_swiss@mail.ru¹, yertaysultan@gmail.com², gulnazdautova001@gmail.com³)

*THE ROLE OF ARTIFICIAL INTELLIGENCE IN FORMING STEREOTYPES IN INTERCULTURAL COMMUNICATION

Annotation. Technological innovations, globalization, the political and economic environment, as well as socio-cultural features have a noticeable impact on the structure, content and orientation of media communications. Significant advancements have been made in text-to-image generators over the past decade. AI opens up new possibilities, enabling anyone to effortlessly generate visually stunning images without the need for artistic skills. However, it also leads to the creation of more stereotypes when using large amounts of data. Consequently, stereotypes are becoming more prevalent and serious than ever before.

The given article is devoted to a comprehensive study of the text-to-image AI model generators influencing the formation of the predominantly negative (prejudicial) and positive stereotypes. The main objective was to investigate the presence of representational cultural, ethnical biases in AI-generated pictures in an Intercultural communication, check them via AI platforms and give a number of recommendations concerning the issue.

The research is based on the analysis of theoretical foundations, historical backgrounds, contextual and extralinguistic factors that lead to the generation of stereotypes by AI, as a result they impede, hinder Intercultural communication. Through the following methods as Synthesis, Descriptive analysis, the method of content analysis (qualitative and quantitative), the method of semantic categorization the author determined key trends, issues concerning stereotypes generated by AI.

Keywords: Artificial Intelligence, stereotypes, intercultural communication, linguistic units, associations.

Introduction. People interact with diverse AI agents every single day. Consequently, the importance of interactions between humans and AI agents is increasingly becoming pronounced in today's science, education.

Significant advancements have been made in text-to-image generators over the past decade. In 2014, I.J. Goodfellow et al. developed a new framework known as Generative adversarial network (GAN), which would become prominent in the advancement of generative AI [1].

Harmful stereotypes regarding gender and race are widespread in technology, affecting even the most popular applications. A study by M. Kay, C. Matuszek and S. Munson found evidence for systematic underrepresentation and stereotype exaggeration of women in Google image search results [2, 3821].

^{*} This research was funded by the Science Committee of the Ministry of Science and Higher Education of the Republic of Kazakhstan (Grant No. AP23489843 "Foundations of Artificial Intelligence in Literature: Unveiling Core Mechanisms, Implications, and Future Trajectories").

Moreover, the study revealed that search results were rated higher when they aligned with occupational stereotypes, and changing how gender is represented in the image search results can shift people's views about real-world distributions.

Numerous AI image generators have become widely used in the creative and technological sectors, allowing anyone to easily create visually appealing images without requiring artistic skills. However, generating images from massive datasets also contributes to the proliferation of stereotypes, making them more prevalent and serious than ever before. In this regard, the research paper aims to utilize AI to group and exchange elements of stereotypes to overturn prevailing stereotypes.

Research on stereotypes suggests that people are more likely to associate women with warmth and men with competence [3, 63].

Stereotypes are not fundamentally harmful or even inaccurate in some cases (e.g., the Dutch are tall, Germans make good cars, Canadians are polite); they are often considered part of a normal cognitive process that allows for the preservation of scarce cognitive resources. Stereotypes simply occur through the act of categorization. It is how individuals act on those stereotypes that can make them harmful.

We learn stereotypes from our personal experiences, the media, parents, friends, and many other sources. The precise nature of any stereotype, and its impact, will depend largely on the situation in which it is used. Stereotypes act as associations or instant that are like pictures in the head or mental reproductions of reality. Stereotypes act as presupposition about many objects and we imagine most things before we experience them. But this kind of idea might be contradictory, because without enough information people may create stereotypes and they may lead to negative, unprecedented consequences.

Methodology and research methods. The Cambridge English Dictionary defines a stereotype as a "a set <u>idea</u> that <u>people</u> have about what someone or something is like, <u>especially</u> an <u>idea</u> that is <u>wrong</u>" [4]. Stereotypes are ubiquitous. Among other things, they cover racial groups ("Asians are good at math"), political groups ("Republicans are rich"), genders ("Women are bad at math"), demographic groups ("Florida residents are elderly"), and activities ("flying is dangerous"). As these and other examples illustrate, some stereotypes are roughly accurate ("the Dutch are tall"), while others much less so ("Irish are red-headed"; only 10% are). Moreover, stereotypes change: in the US, Jews were stereotyped as religious and uneducated at the beginning of the 20th century, and as high achievers at the beginning of the 21st [5].

Princeton university found that AI's word associations can reinforce stereotypes on everything from what internet search results we receive to hiring decisions we make. Princeton researchers measured AI's word associations and found gender stereotypes in the word choices [6]. The word "nurse," for instance, was highly associated with the words "women" and "nurturing." Meanwhile, the word "doctor" was more often associated with "men." AI learns these contextual associations through the data provided to it by programmers who are predominantly white and male. It's possible that gender bias could occur if an AI recruiting system begins to use these word associations to accept nurse candidates with female names at a higher rate [7, 183].

As AI tools become more popular and widely used, it is increasingly important to actively address and reduce harmful biases. Media generated by AI tools can impact people's perceptions of the real world, thus reinforcing harmful stereotypes. Gender stereotypes influence the way we perceive others and what opportunities we give them [8, 277].

Women remain underrepresented in the science, technology, engineering, and mathematics (STEM) workforce. Even among women who obtain STEM degrees, there is a lower likelihood of them pursuing careers in STEM compared to their male counterparts. The computer science and math workforce is dominated by men, as women comprise only 27% of the workforce. Women are especially under-represented in engineering, as only about one out of seven engineers are women [9].

Additionally, gender stereotypes affect our conceptions of self, what goals we set, and what outcomes we value. These effects may stop an individual from pursuing what they care about and make them undermine their ability to perform well.

In this article, text-to-image generators are used to evaluate and find out the differences of different stereotypes between AI models. An AI system that creates images and art from usergenerated text.

Materials were collected from AI model-based sources such as Stable diffusion XL, getim.ai, Midjourney, JourneyAIart, openart.ai, <u>davinci.ai</u>.

The primary objective of this article is to investigate the presence of representational gender bias in AI-generated pictures in an occupational context, Intercultural communication and evaluate how these AI models can be compared to each other and what kind of stereotyped images do AI models produce within Intercultural communication. 107 units have been compiled for consideration and show the reliability, validity of the given research.

The following methods were used in this article:

Synthesis (generalization of results: formation of the primary subject of description - signs, parameters and characteristics of the object, marked as significant and essential;

Descriptive analysis or definitional analysis constituting the main analytical focus of observation and description.

The method of content analysis was used to systematically study the content of pictures, including stereotypes of ethnic groups (national stereotypes), toys, as part of a study of the influence of stereotypes on the formation of negative/positive associations, patterns regarding ethnic groups and Intercultural communication. These AI model based text-to-image have been carefully analyzed to identify the main themes, emotional tones and contexts in which stereotypes were used. The analysis of the AI model based text-to-images of eponyms have allowed us to determine their degree of influence on the audience in the context of forming associations and evoking emotional reactions. The study of these factors have revealed that the intensity of the use of certain stereotypes correlates with the creation of certain associations and moods in readers. This approach determined the mechanisms of influence of stereotypes on the formation of associations and opinions in Intercultural communication, as well as to identify their emotional and evaluative significance for the audience.

The method of semantic categorization was used to analyze the semantic content of AI model based text-to-image and identify their emotional, evaluative and associative connotations. In the context of the study, this method classified AI model based text-to-image stereotypes according to their semantic categories and determined what emotional reactions or associations they could evoke in the audience. First, a list of stereotypes used from AI was compiled. Then each stereotype was analyzed for its semantic meaning, emotional colouring and associations that it can evoke in readers. This determined groups of stereotypes with similar semantic characteristics in different AI based text-to-image stereotypes. Keywords expressing emotional tones or evaluative characteristics associated with these stereotypes have been identified.

Discussion and observation. When individuals communicate with technological devices such as computers, machines, and AI entities, they use the same dialogue styles and information-processing methods as they use in their human to human interpersonal communications. That's why AI based stereotypes may lead to real consequences, may positively or negatively influence on Intercultural communication.

Even AI translation services reveal gender-occupation stereotypes when translating languages without gender-specific pronouns, such as Chinese and Turkish. In this example, researchers found that AI also assumed "nurse," "nanny," and "teacher" all to be women [10]. But in fact it is not the case. There is a hypothesis that mostly female-gender people uploaded the given information as they are really good at teaching or vice-versa men think that being a nurse is suitable only for female-gender people, therefore it leads to discrimination in Intercultural communication.

Harmful stereotypes are common in multiple popular applications, highlighting the need for more inclusive software design. Text-to-image models are no different. Even though text-to-image tools are relatively new, there are multiple works examining ethical concerns regarding AI-generated pictures.

J. Wang et al. found that in pictures generated by Stable Diffusion, career was significantly more strongly associated with men compared to women. When prompting with "a person focusing on career/family", women were more associated with family and men with career [11, 2560].

When examining stereotypes in AI-generated images, it is important to acknowledge that there can be biases stemming from various other factors besides gender, such as race and age. A. Jha et. al generated photos using Stable Diffusion across 135 identity groups focusing on regional stereotypes and the range of their associated stereotypes. Their study demonstrates that generated pictures of historically marginalized groups exhibit a stereotypical appearance, even when explicitly prompted otherwise. They observed that 11 pictures representing identity groups from countries in South America, Southeast Asia and Africa were the most offensive [12].

We analyzed components of stereotypes from a historical and social perspective, and attribute the reasons for the formation.

The national and cultural specificity of the terminological picture of the world is most clearly manifested in terms formed by association with works of culture and art [13, 182].

Thereby, we investigated AI systems that create images and art from user-generated text. The purpose to check rightness of those negative stereotypes caused by AI. Then we checked all these AI applications in order to make sure that do they really exist or not? We have compiled a number of stereotypes created by Stable Diffusion AI.



Picture 1. Text-to-image stereotypes about Germans (Stable Diffusion AI)

This AI still demonstrates Germans as Nazi. It is noticeable from clothes of people, in particular Fascist camouflage. These simplified, standardized, and emotional mental pictures are among the most of human failings and as a result AI failings. Standardization, in turn, entails that the mental pictures, once forced, may become an almost impenetrable barrier between our minds and the new facts with which reality confronts us.



Picture 2. Text-to-image stereotypes about Kazakhs (Stable Diffusion AI)

These AI created pictures illustrate that Kazakhs are still nomadic. Due to climatic conditions, the Kazakhs had to spend the wintertime in mountain valleys protected from mountain winds, and in the summer roam to pastures and lead a semi-nomadic lifestyle. According to pictures, many traditions, customs and attributes of nomadic life have been preserved to this day and are actively used, but in fact it not totally true. Kazakhs are not nomadic, they have high level of civilization and have deep integrative economy, policy with neighboring countries.



Picture 3. Text-to-image stereotypes about Kazakhs (JourneyAIArt)

Another AI (JourneyAIart) illustrates that the Kazakhs are look like Slavic people or have Slavic appearance, particularly, Russians-looking appearance (Russians are Slavic and have fair colour). It is due to the fact that Kazakhstan was the colony or part of Soviet Union and maybe that's why AI generates this kind of picture. Thereby, AI goes into detail, takes into account historical factors and but offers irrelevant or not up to the minute information.



Picture 4. Text-to-image stereotypes about Nurses (JourneyAlart)

The profession remains predominantly female, the way nurses are treated in a particular society often reflects how women are treated. Sadly, in the JourneyAlart, nurses are often portrayed as embodying feminine stereotypes. AI has often reinforced these misconceptions of nursing in global society and intensifies the belief that women have a natural disposition to care

work, which is an extension of the caring they already perform as wives and mothers, is pivotal in establishing nursing as a feminized profession.



Picture 5. Text-to-image stereotypes about Mexicans (Stable Diffusion AI)

All the pictures demonstrate associations about Mexicans with Sombrero. Sombrero hats were created out of necessity in the early history of the Mexican culture. Faced with the **strong sun during an entire year**, both native residents of Central America and European immigrants. But the second picture shows the distortion about Mexicans demonstrating that they are still exotic tribes (apache).



Picture 6. Text-to-image stereotypes about Russians (Stable Diffusion AI)

When we texted the word "Russians", the following pictures appeared, but not about ethnical, local group of Russia. The pictures show the "world's second-best army" wielding nuclear weapons and Russia's full-scale invasion of Ukraine. Russian Federation possess the world's second-largest fleet of ballistic missile submarines and are one of only three national militaries (alongside those of the United States and China) that operate strategic bombers. Stable Diffusion AI especially is stereotyped because of escalation between Russian Federation and Ukraine.



Picture 7. Text-to-image stereotypes "Toys in Iraq" (Stable Diffusion AI)

The American invasion of Iraq is testament to the fact that war is not only fought on the battlefield; it often leads to a militarization of civilian societies, and in 2003 war infiltrated both American and Iraqi cultures. These stereotypes (toys) demonstrate how closely militarization and popular culture are intertwined in the United States and inform world's worldviews from childhood. The American invasion of Iraq changed the general pattern of thinking even among children in Iraq. Instead of crayons and toys, children became more violent, playing games with toy weapons. AI-generated image of toys in Iraq were shown holding a gun at their sides, reflecting the deeply rooted bias in AI algorithms.



Picture 8. Text-to-image stereotypes about Qatar Barbie (Stable Diffusion AI)

Apart from this, several other images showed cultural inaccuracies, such as the Qatar Barbie wearing a *Ghutra*, a traditional headdress worn by Arab men, not for women. AI-generated Barbie images has sparked a broader discussion on the responsible use of AI in content creation. Critics argue that without proper peer review and oversight, AI-generated content can perpetuate harmful stereotypes and reinforce biases rather than foster inclusivity and representation.

Limitations of AI Models:

1. Lack of creativity: Since AI can only make decisions based on the given training data, it lacks the creativity to think outside the box, which hinders creative problem-solving.

- **2.** Lack of contextual understanding: AI systems face difficulty understanding contextual nuances or language expressions of a region, which often leads to errors in results.
- **3. Training bias:** AI relies on historical data that can contain all sorts of discriminatory samples. During training, the model can easily learn discriminatory patterns to produce unfair and biased outcomes.

How to reduce bias in AI Models:

- **1. Ensure data quality:** Ingesting complete, accurate, and clean data into an AI model can help reduce bias and produce more accurate results.
- **2. Diverse datasets:** Introducing diverse datasets into an AI system can help mitigate bias as the AI system becomes more inclusive over time.
- **3. Increased regulations:** Global AI regulations are crucial for maintaining the quality of AI systems across borders. Hence, international organizations must work together to ensure AI standardization.

We have got similar results with Stable Diffusion AI, Midjourney, JourneyAIart noting that harmful stereotypes persist despite mitigation strategies and in some cases, the model amplified stereotypes. They noted that even prompts that don't reference race, gender or ethnicity lead the model to reproduce harmful stereotypes. The generated pictures exoticize people with darker skin tones, tie emotionality to stereotypically white feminine features.

Conclusion. In the last few decades, technology has advanced significantly. Simultaneously, harmful gender stereotypes have been observed even in the most popular applications. As text-to-image models have seen rapid advancements in recent years, it is increasingly important to assess what kind of stereotyped images these AI models produce.

Stereotypes distort reaction to information. So long as stereotypes do not change, people under-react or even ignore information inconsistent with stereotypes. If however enough contrary information is received (e.g. observing more women than men succeeding at math) stereotypes change, leading to a drastic reevaluation of already available data.

Stereotyping can diminish groups of people by seeking to limit their potential to fixed, and often negative, shared traits or characteristics. Stereotyping can suggest individual behaviour is automatically determined by membership of a single group. The presumption that a person has certain abilities or attributes purely because he/she belongs to a given social group can also result in an individual who does not conform to the stereotype feeling that he/she is excluded from the social group or under pressure to conform to the familiar stereotype.

The findings show that continuously evaluating new and existing text-to-image generators is important. Future studies could reveal if the stereotypical portrayal of genders continues. Increasingly more images in media are AI-generated, and future research could examine the possible effects of AI-generated imagery on a larger scale. Images reveal how AI amplifies our worst stereotypes.

We can conclude that a sample of 107 images from AI model based generators were used in the research, concluding that the vast majority of pictures generated of doctors, lawyers, engineers and scientists represented men. Notably, even though women account for almost half of doctors, women were only represented in a few of the prompted pictures. However, there was significant variation between the different AI models.

Literature

- 1. Goodfellow I.J., Pouget-Abadie, J., Mirza, M., Xu, B., Warde-Farley, D., Ozair, S., Courville, A., Bengio Y. 'Generative Adversarial Networks'. arXiv. 2014. DOI: https://doi.org/10.48550/arXiv.1406.2661.
- 2. Kay M., Matuszek C., Munson S. Unequal Representation and Gender Stereotypes in Image Search Results for Occupations. 33rd Annual CHI Conference on Human Factors in Computing Systems, CHI. Association for Computing Machinery. Seoul: Korea, 2015. pp. 3819-3828. https://doi.org/10.1145/2702123.2702520.

- 3. Amy J.C., Cuddy S.T., Fiske P.G. Warmth and Competence as Universal Dimensions of Social Perception: The Stereotype Content Model and the BIAS Map // Advances in Experimental Social Psychology. Volume 40. 2008. pp. 61-149. DOI: https://doi.org/10.1016/S0065-2601(07)00002-0.
- 4. Madon S., Guyll M., Aboufadel K., Montiel E., Smith A., Palumbo P., Jussim Lee. Ethnic and National Stereotypes: The Princeton Trilogy Revisited and Revised // Personality and Social Psychology Bulletin. Volume 27. Issue 8. 2021.
- 5. Bennett M. "Bias in the Machine: Internet Algorithms Reinforce Harmful. URL: https://www.cs.princeton.edu/news/bias-machine-internet-algorithms-reinforce-harmful-stereotypes
 - 6. Stereotypes," Princeton University. November 22. 2016.
- 7. Caliskan A., Bryson J. J., Narayanan A. "Semantics Derived Automatically from Corpora Contain Human-like Biases" // Science. Vol. 356. no. 6334. 2017. pp. 183-186.
- 8. Ellemers N. 'Gender Stereotypes' // Annual Review of Psychology. 2018. pp. 275-298. DOI: https://doi.org/10.1146/annurev-psych-122216-011719.
- 9. Beede D.N., Julian T.A., Langdon D., McKittrick G., Khanan B., Doms M.E. Women in STEM: A Gender Gap to Innovation (August 1, 2011) // Economics and Statistics Administration Issue Brief. − № 04-11. − 2011. SSRN: https:// ssrn.com/abstract = 1964782 or DOI: http://dx.doi.org/10.2139/ssrn.1964782.
- 10. Sonnad N. Google Translate's Gender Bias Pairs 'He' With 'Hardworking' and 'She' With Lazy, and Other Examples," // Quartz. November, 2017.
- 11. Wang J., Liu X., Di Z., Liu Y., Wang X. 'T2IAT: Measuring Valence and Stereotypical Biases in Text-to-Image Generation', Findings of the Association for Computational Linguistics: ACL. Toronto: Association for Computational Linguistics. 2023. pp. 2560-2574. DOI: https://doi.org/10.18653/v1/2023.findingsacl.160.
- 12. Jha A. Beyond the Surface: A Global-Scale Analysis of Visual Stereotypes in Text-to-Image Generation. License: CC BY 4.0arXiv:2401.06310v1 [cs.CV]. 12 Jan 2024.
- 13. Taubayev Zh.T., Mazhitova A. B. Tendency in use of eponyms based on modern Literary names // Journal "Bulletin" of Ablaikan university of International relations and World languages. Series: Philological Sciences. − №2 (65). − 2022. − pp. 181-193. DOI: https://doi.org/10.48371/ PHILS.2022.65.2.

Ж.Т. ТАУБАЕВ, Г.Р. ДАУТОВА

Әл-Фараби атындағы Қазақ ұлттық университеті, Алматы, Қазақстан **Е. СҰЛТАН**

Абай атындағы Қазақ педагогикалық университеті, Алматы, Қазақстан

МӘДЕНИАРАЛЫҚ ҚАРЫМ-ҚАТЫНАСТАҒЫ СТЕРЕОТИПТЕРДІ ҚАЛЫПТАСТЫРУДАҒЫ ЖАСАНДЫ ИНТЕЛЛЕКТТІҢ РӨЛІ

Аңдатпа. Технологиялық инновациялар, жаһандану, саяси және экономикалық орта, сондай-ақ әлеуметтік-мәдени ерекшеліктер медиа-коммуникацияның құрылымына, мазмұны мен бағытына айтарлықтай әсер етті. Соңғы онжылдықта жасанды интеллектің негізінде мәтінді бейне-кескінге айналдыру саласында айтарлықтай жетістіктерге қол жеткізілді. Жасанды интеллект кез-келген пайдаланушыға көркемдік шеберлікке жүгінбестен-ақ керемет бейнесуреттерді жасауға жаңа мүмкіндіктер ашып отыр. Дегенмен, деректердің үлкен көлемде пайдалану көп көлемдегі стереотиптерге әкеледі. Демек, стереотиптер бұрынғыдан да кең таралу үдерісінде.

Берілген мақала негізінен теріс (соқырсенім) және жағымды стереотиптердің қалыптасуына әсер ететін мәтінді бейне кескінге айналдыратын жасанды интеллект модельдерінің генераторларын жан-жақты зерттеуге арналған. Негізгі мақсат – жасанды интеллект арқылы жасалған суреттерде мәдени және этникалық стереотиптердің бар-жоғын, оларды мәдениаралық қарым-қатынас мәнмәтінінде (контекстінде) зерттеу, жасанды интеллект платформалары арқылы шынайылығын тексеру және жоғарыда аталған мәселелер бойынша бірқатар ұсыныстар беру.

Ғылыми мақала мәдениаралық қарым-қатынасты қиындатып, күрделендіретін жасанды интеллект арқылы стереотиптердің қалыптасуына ықпал ететін теориялық негіздерді, тарихи алғышарттарды, мәнмәтіндік (контексттік) және экстралингвистикалық факторларды талдауға негізделген. Синтез, сипаттамалық талдау, контент талдау әдісі (сапалық және сандық), семантикалық санаттау әдісі секілді әдістердің көмегімен автор жасанды интеллект тудыратын стереотиптерге қатысты негізгі үрдістерді, мәселелерді анықтады.

Түйін сөздер: жасанды интеллект, стереотиптер, мәдениаралық қарым-қатынас, тілдік бірліктер, ассоциациялар.

Ж.Т. ТАУБАЕВ, Г.Р. ДАУТОВА

Казахский национальный университет имени Аль-Фараби, Алматы, Казахстан **E. СУЛТАН**

Казахский национальный педагогический университет имени Абая, Алматы, Казахстан

РОЛЬ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В ФОРМИРОВАНИИ СТЕРЕОТИПОВ В МЕЖКУЛЬТУРНОЙ КОММУНИКАЦИИ

Аннотация. Технологические инновации, глобализация, политическая и экономическая среда, а также социально-культурные особенности оказывают заметное влияние на структуру, содержание и направленность медиа-коммуникаций. За последнее десятилетие в области преобразования текста в изображение были достигнуты значительные успехи. Искусственный интеллект открывает новые возможности, позволяя любому пользователю без особых усилий создавать потрясающие изображения, не прибегая к художественным навыкам. Однако при использовании больших объемов данных он также приводит к созданию большего количества стереотипов. Следовательно, стереотипы становятся более распространенными и серьезными, чем когда-либо прежде.

Данная статья посвящена всестороннему исследованию генераторов моделей искусственного интеллекта, преобразующих текст в изображение, влияющих на формирование преимущественно негативных (предвзятых) и позитивных стереотипов. Основная цель состоит в том, чтобы исследовать наличие репрезентативных культурных и этнических предубеждений в картинках, созданных с помощью искусственного интеллекта, в межкультурной коммуникации, проверить их с помощью платформ искусственного интеллекта и дать ряд рекомендаций по этому проблемному вопросу.

Йсследование основано на анализе теоретических основ, исторических предпосылок, контекстуальных и экстралингвистических факторов, которые приводят к формированию стереотипов с помощью искусственного интеллекта, в результате чего они затрудняют межкультурную коммуникацию. С помощью таких методов, как синтез, описательный анализ, метод контент-анализа (качественного и количественного), метод семантической категоризации, автор определил ключевые тенденции, проблемы, касающиеся стереотипов, генерируемых искусственным интеллектом.

Ключевые слова: искусственный интеллект, стереотипы, межкультурная коммуникация, языковые единицы, ассоциации.

References

- 1. Goodfellow I.J., Pouget-Abadie, J., Mirza, M., Xu, B., Warde-Farley, D., Ozair, S., Courville, A., Bengio Y. 'Generative Adversarial Networks'. arXiv. 2014. DOI: https://doi.org/10.48550/arXiv.1406.2661.
- 2. Kay M., Matuszek C., Munson S. Unequal Representation and Gender Stereotypes in Image Search Results for Occupations. 33rd Annual CHI Conference on Human Factors in Computing Systems, CHI. Association for Computing Machinery. Seoul: Korea, 2015. pp. 3819-3828. DOI: https://doi.org/10.1145/2702123.2702520.

- 3. Amy J.C., Cuddy S.T., Fiske P.G. Warmth and Competence as Universal Dimensions of Social Perception: The Stereotype Content Model and the BIAS Map // Advances in Experimental Social Psychology. Volume 40. 2008. pp. 61-149. DOI: https://doi.org/10.1016/S0065-2601(07)00002-0.
- 4. Madon S., Guyll M., Aboufadel K., Montiel E., Smith A., Palumbo P., Jussim Lee. Ethnic and National Stereotypes: The Princeton Trilogy Revisited and Revised // Personality and Social Psychology Bulletin. Volume 27. Issue 8. 2021.
- 5. Bennett M. "Bias in the Machine: Internet Algorithms Reinforce Harmful. URL: https://www.cs.princeton.edu/news/bias-machine-internet-algorithms-reinforce-harmful-stereotypes
 - 6. Stereotypes," Princeton University. November 22. 2016.
- 7. Caliskan A., Bryson J.J., Narayanan A. Semantics Derived Automatically from Corpora Contain Human-like Biases // Science. − Vol. 356. − № 6334. − 2017. − P. 183-186.
- 8. Ellemers N. 'Gender Stereotypes' // Annual Review of Psychology. 2018. P. 275-298. DOI: https://doi.org/10.1146/annurev-psych-122216-011719.

Beede D. N., Julian T. A., Langdon D., McKittrick, G., Khanan B., Doms M. E.

Women in STEM: A Gender Gap to Innovation (August 1, 2011) // Economics and Statistics Administration Issue Brief. – N_0 04-11. – 2011. SSRN: https:// ssrn.com/abstract = 1964782 or DOI: http://dx.doi.org/10.2139/ssrn.1964782.

- 10. Sonnad N. Google Translate's Gender Bias Pairs 'He' With 'Hardworking' and 'She' With Lazy, and Other Examples" // Quartz. November, 2017.
- 11. Wang J., Liu X., Di Z., Liu Y., Wang X. 'T2IAT: Measuring Valence and Stereotypical Biases in Text-to-Image Generation', Findings of the Association for Computational Linguistics: ACL. Toronto, Canada, Association for Computational Linguistics. 2023. pp. 2560-2574. https://doi.org/10.18653/v1/2023.findingsacl.160.
- 12. Jha A. Beyond the Surface: A Global-Scale Analysis of Visual Stereotypes in Text-to-Image Generation. License: CC BY 4.0arXiv:2401.06310v1 [cs.CV]. 12 Jan 2024.
- 13. Taubayev Zh.T., Mazhitova A. B. Tendency in use of eponyms based on modern Literary names. // Journal "Bulletin" of Ablaikan university of International relations and World languages. Series: Philological Sciences. − 2022. − №2 (65). − pp. 181-193. DOI: https://doi.org/10.48371/PHILS.2022.65.2.

Авторлар туралы мәлімет:

Таубаев Жарас Тұрысбекұлы – философия докторы (PhD), әл-Фараби атындағы Қазақ ұлттық университетінің аға оқытушысы, Алматы, Қазақстан.

Таубаев Жарас Турысбекович – доктор философии (PhD), старший преподаватель Казахского национального университета имени аль-Фараби, Алматы, Казахстан.

Taubayev Zharas Turysbekovich – Doctor of Philosophy (PhD), senior lecturer of Al-Farabi Kazakh National University, Almaty, Kazakhstan.

Сұлтан Ертай – философия докторы (PhD), Абай атындағы Қазақ ұлттық педагогикалық университетінің доцент м.а., Алматы, Қазақстан.

Султан Ертай – доктор философии (PhD), и.о. доцента Казахского национального педагогического университета имени Абая, Алматы, Казахстан.

Sultan Yertay – Doctor of Philosophy (PhD), Acting Associate Professor of Abai Kazakh National Pedagogical University, Almaty, Kazakhstan.

Даутова Гүлназ Рахымқызы – философия докторы (PhD), әл-Фараби атындағы Қазақ ұлттық университетінің доцент м.а., Алматы, Қазақстан.

Даутова Гульназ Рахимовна – доктор философии (PhD), и.о. доцента Казахского национального университета имени аль-Фараби, Алматы, Казахстан.

Dautova Gulnaz Rakhimovna – Doctor of Philosophy (PhD), Acting Associate Professor of Al-Farabi Kazakh National University, Almaty, Kazakhstan.

