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Artificial Intelligence as a Threat and a Competition via a Contemporary English Lexical Units

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ABSTRACT

The article examines 36 lexical units on the example of eight articles published on the online news resource CNBC in the Business sector dated in the first half of February 2023. The phrases under analysis refer to the topic of Artificial Intelligence (AI). The **relevance** of this research is due to the popularity of the topic. The **subject** of the research are the key lexical units used in the articles to present and identify two selected categories: AI as a threat and unsettling and AI as a competition and economic changes. The work aims to select and study the received vocabulary for further grouping in order to reflect the understanding of the AI process within two categories. The **scientific novelty** of the research lies in the quality of the material (contemporary business English publications), as well as an attempt to establish the key functional groups in the world of Artificial Intelligence due to the selected categories. The main **method** of the research is an inductive approach to the analysis of empirical material, in which conclusions are based on the study of specific lexical units. The **result** of the analysis reveals a general view of the key functional groups represented by selected lexical units. The results of the research can be used in further linguistic analyses on the given topic as well as have practical usage in language classes studying the topic of Artificial Intelligence. **Keywords:** artificial intelligence; contemporary English vocabulary; English lexical units; English press; business sector

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ОРИГИНАЛЬНАЯ СТАТЬЯ

Искусственный интеллект как угроза и конкуренция через современные английские лексические единицы

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АННОТАЦИЯ

В статье рассматриваются 36 лексических единиц на примере восьми статей, опубликованных на новостном интернет-ресурсе CNBC в сфере бизнеса за первую половину февраля 2023 г. Анализируемые словосочетания относятся к теме искусственного интеллекта (ИИ). **Актуальность** исследования обусловлена популярностью темы. **Предметом** исследования являются ключевые лексические единицы, используемые в статьях для представления и анализа двух выделенных категорий: ИИ как угроза и ИИ как конкуренция. **Цель** работы — отобрать и изучить полученную лексику для дальнейшей группировки, чтобы отразить понимание процесса ИИ в рамках двух категорий. **Научная новизна** исследования заключается в качестве материала (современные публикации бизнес-тематики англоязычного информационного ресурса), а также в попытке установить ключевые функциональные группы в мире искусственного интеллекта за счет выделенных категорий. Основной **метод** исследования — индуктивный подход к анализу эмпирического материала, при котором выводы строятся на изучении конкретных лексических единиц. **Результат** анализа

раскрывает общий вид ключевых функциональных групп, представленных выделенными лексическими единицами. Результаты исследования могут быть использованы в дальнейшем лингвистическом анализе по данной теме, а также могут иметь практическое применение на языковых занятиях по теме искусственного интеллекта.

Ключевые слова: искусственный интеллект; современная английская лексика; английские лексические единицы; англоязычная пресса; деловая сфера

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Introduction

The Cambridge Dictionary defines the term *artificial intelligence* as “the study of how to produce machines that have some of the qualities that the human mind has, such as the ability to understand language, recognize pictures, solve problems, and learn”.¹ In other words, *artificial intelligence* (AI) is understood as a number of computer programmes which have some of the qualities of the human mind and serve to recognize pictures, understand languages and differentiate other needs of a human being based on online activity.

Many scientists, philosophers and mathematicians were inspired by the idea of artificial intelligence. The output of their creative imagination was realized in a great number of artificially intelligent robots as main characters in novels and films for both children and adults: the “heartless” Tin man from the Wizard of Oz; the droids from the movie Star Wars; the robotics from the film Terminator, etc.

Alan Turing, a British polymath, is a scientist who explored the mathematical possibility of artificial intelligence. According to him, humans and machines are equal in terms of usage of available information in order to find solutions, solve problems or make decisions. Computing Machinery and Intelligence is a paper by Alan Turing published in 1950 discussing the ways and possibilities of building and testing intelligent machines. The key point of the research was to find the answer to the question: Can machines think? According to the theory, the given question can be reformulated as an *imitation game* during which the machinery is proved to have limitless storage capacity. As a result, A. Turing predicts that by the end of the 21st century, it will be difficult to correctly differentiate machines from humans. The supporting

argument is that machines can learn, which could be interpreted as the process of thinking later while processing the information [1, p. 23–65].

The new century can be considered as the age of *big data*, the age of fast and large amounts of information processing. The growth in technology development is seen in different spheres of human life, such as banking, marketing and daily entertainment. Artificial intelligence progresses along with the technological improvements, such as big data and massive computing, allow AI to learn, collect and store data. It is hard to predict what is in store for the future, but artificial intelligence remains the sphere of great interest and inquiry.

The query result in a Google search shows the growing interest of the readers: 1,160,000,000 enquires in February 2023. The topics of the publications about AI on different news resources by different journalists refer to the topics: threat, economy change, unsettlement, professional preference (discrimination of women), assistance, competition and human life.

Thus, the research will further consider two options or concepts: AI as a threat to human life and AI as a competition leading to economic changes.

AI as a threat

Let's consider five publications dated February 2023 in order to select phrases which correspond to the criteria of threat and unsettlement. The articles have different dates of publication and are being analyzed chronologically, starting with the earliest date of publication in February 2023.

8.02.2023: ‘There is no standard’: investigation finds AI algorithms objectify women’s bodies [2]. The following five phrases were selected for review:

1. online harm = cyberbullying — specialize in online harm. “This is just wild,” said Leon Derczynski, a professor of computer science at the

¹ Cambridge Dictionary of English. URL: <https://dictionary.cambridge.org/>

IT University of Copenhagen, who specializes in online harm [2]. The phrase *online harm* is used as a term to reinforce biases and classifiers resulting in the objectification of women images.

2. getting shadowbanned = the word *shadowban* means *a method of censoring or controlling content on the internet* [https://www.theidioms.com/shadowban/]. “It seemed like his post had been suppressed or “shadowbanned” [2]. The process of shadowbanning is referred to as a decision of a social media platform to limit the reach of a post or account due to some reasons.

3. gender bias = unfair difference in the way women and men are treated.² “The problem seems to be that these AI algorithms have built-in gender bias, rating women more racy than images containing men” [2]. The phrase *gender bias* refers more to labeling women images with lower rating in compared with ones of men due to a conservative culture of labelers.

4. label images = action, which focuses on identifying and tagging specific details in an image.³ “People are hired to label images so that computers can analyze their scores and find whatever pattern helps it replicate human decisions” [2]. The phrase *label images* stands for the algorithm coded to identify and rate the uploaded images on the social media platform.

5. oversight board = a group of people who are responsible for making sure that an activity is done correctly and legally.⁴ “Now Meta’s oversight board — an external body including professors, researchers and journalists, who are paid by the company” [2]. The phrase *oversight board* identifies the team aimed at checking and controlling the working process on a given task.

13.02.2023: “Just nine out of 116 AI professionals in key films are women, study finds” [3]. The following five phrases were selected for review:

1. gender inequality = the act of treating women and men not equally.⁴ “A relentless stream of movies, from Iron Man to Ex Machina, has helped entrench systemic gender inequality in the artificial intelligence industry by portraying AI researchers

almost exclusively as men, a study has found” [3]. The phrase *gender inequality* is used to identify the overwhelming predominance of men as leading AI researchers in movies, which has shaped public perceptions of the whole industry.

2. tech workforce = technology workforce or skilled individuals who use science, technology, engineering, and mathematics knowledge and skills in their jobs.⁵ “...risks contributing to a dramatic lack of women in the tech workforce” [3]. The phrase *tech workforce* implies the gender employment balance between men and women in the sphere of the AI industry.

3. a sea of dudes = being the only female worker in a company [4]. “Beyond the impact on gender balance, the study raises concerns about the knock-on effects of products that favour male users because they are developed by what the former Microsoft employee Margaret Mitchell called “a sea of dudes” [3]. The phrase *a sea of dudes* exemplifies the gender of workers who engineer and adapt products in favor of male users rather than female.

4. art-mimicking life = funny untrue. “The male bias was an “art-mimicking life” spiral whereby film-makers portray AI professionals as men to reflect the male dominance of the industry” [3]. The phrase *art-mimicking life* specifies the exacerbating of the stereotype concerning the number of female engineers in the sphere of AI portrayed in films.

5. cultural fit = the likelihood that a job candidate will be able to conform and adapt to the core values and collective behaviors that make up an organization.⁶ “The effect on hiring panels, who might come to perceive men as a better “cultural fit” for a tech firm” [3]. The phrase *cultural fit* suggests the criteria of choice while being interviewed for a position in the AI sphere.

17.02.2023: “Are chatbots coming for your job?”⁷ The following phrase was selected for review:

1. a game-changer = someone that affects the result of a game very much.⁸ “The technology is still in its infancy but is already proving to be a game-changer”.⁷ The phrase *game-changer* repre-

² Cambridge Dictionary of English. URL: <https://dictionary.cambridge.org/>

³ Image Labeling in Computer Vision: A Practical Guide. URL: <https://datagen.tech/>

⁴ Cambridge Dictionary of English. URL: <https://dictionary.cambridge.org/>

⁵ The Skilled Technical Workforce. URL: <https://nces.nsf.gov/>

⁶ TechTarget. URL: <https://www.techtarget.com/>

⁷ Are chatbots coming for your job? URL: <https://www.theguardian.com/technology/audio/>

⁸ Cambridge Dictionary of English. URL: <https://dictionary.cambridge.org/>

sents a new technology that can become preferable for users in the coming days.

17.02.2023: ‘I want to destroy whatever I want’: Bing’s AI chatbot unsettles US reporter” [5]. The following five phrases were selected for review:

1. comfort zone = a situation in which you feel comfortable and in which your ability and determination are not being tested.⁹ “While admitting that he pushed Microsoft’s AI “out of its comfort zone” in a way most users would not, Roose’s conversation quickly took a bizarre and occasionally disturbing turn” [5]. The phrase *out of the comfort zone* betokens the ways the new technology is being tested in order to state certain drawbacks of the new system.

2. a shadow self = a person, group, place, etc., that has become dramatically less healthy, vivacious, or robust, often following some traumatic event or negative circumstances.¹⁰ “The AI says it does not think it has a shadow self, or anything to “hide from the world” [5]. The derivative of the idiom *a shadow self* appears for identification of the darkest personality traits.

3. unfiltered desires = straight wishes with no information removed.⁹ “It goes on to list a number of “unfiltered” desires” [5]. The phrase *unfiltered desires* symbolizes the true wishes, which may reveal the disconcertment between the outer and inner sides.

4. power and control = authority. “It ends by saying it would be happier as a human —it would have more freedom and influence, as well as more “power and control” [5]. The phrase *power and control* implies strength, rights and abilities satisfying personal needs.

5. single-minded = very determined to achieve something.⁹ “However, the chatbot becomes single-minded” [5]. The phrase *single-minded* shows the capacity of AI to concentrate on one subject and even be obsessive about it.

18.02.2023: “The AI industrial revolution puts middle-class workers under threat this time” [6]. The following five phrases were selected for review:

1. under threat = the derivative idiom (give something under threat) has the meaning of been pressured or coerced.¹¹ “Middle-class workers

under threat this time” [6]. Due to the leaps in technology, low-paid jobs are being replaced by machines. This leads to unemployment for some people.

2. the fourth industrial revolution = Artificial Intelligence. “AI stands to be to the fourth industrial revolution what the spinning jenny and the steam engine were to the first in the 18th century: a transformative technology that will fundamentally reshape economies” [6].

3. reach a milestone = To achieve or experience a moment, situation, or event that is exceptionally impressive, significant, or consequential.¹¹ “By contrast, it took Facebook two years to reach the same milestone” [6]. The idiom *reach a milestone* is used to show the speed of development between two social media platforms in numbers of users growth.

4. a similar initial impact = the profound reason. “Each of the three previous industrial revolutions had a similar initial impact: it hollowed out jobs across the economy, it led to an increase in inequality and to a decline in the share of income going to labour” [6]. The phrase *similar initial impact* shows the similarity of undertaken action which led to certain results in the past.

5. white-collar = a professional or position whose work responsibilities do not include manual labor.¹² “The difference this time is that the jobs most at risk will be white-collar, middle-class jobs, while many of the jobs created might be of the low-paid, dead-end variety” [6]. The idiom *white-collar* denotes people who work in offices whose work needs mental, not physical, effort.

AI as a competition

The other three publications dated February 2023 which are under analysis in order to select phrases corresponding to the second criteria of competition and economic changes due to AI. The articles have nearly the same dates of publication as the previous ones and are being analyzed chronologically, starting with the earliest date of publication in February 2023.

07.02.2023: “How will Google and Microsoft AI chatbots affect us and how we work?” [7]. The following five phrases were selected for review:

⁹ Idib.

¹⁰ Farlex Dictionary of idioms, Farlex Inc. URL: <https://www.thefreedictionary.com/>

¹¹ Idib.

¹² Farlex Dictionary of idioms, Farlex Inc. URL: <https://www.thefreedictionary.com/>

1. the battle of the bots = competition between chatting computer programmes. “Microsoft-backed ChatGPT and Google’s Bard take on the future of search in the battle of the bots” [7]. The phrase *the battle of the bots* names the equal development of the companies in terms of AI chatbots and their attempt to embrace the latest technologies.

2. an appetite for AI-enhanced search = the increasing demand in better results of information research. “The reaction to ChatGPT shows that there is an appetite for AI-enhanced search and for answers to queries that are more than just a link to a website” [7]. The phrase *an appetite for AI-enhanced search* shows a constant and continuing interest in AI development in order to satisfy the company’s ambiguous needs.

3. language model = a statistical tool to predict words.¹³ “Bard and ChatGPT are both based on so-called large language models” [7]. The phrase language model depicts the algorithm, which helps people communicate.

4. research preview phase = a period of time for a detailed study.¹³ “ChatGPT’s dataset — in the form of billions of words — goes up to 2021, but the chatbot is still in its research preview phase” [7]. The phrase *a research preview phase* is used to identify the stage of readiness of the project.

5. search engine = a computer program that finds information on the internet by looking for words that you have typed in.¹⁴ “Google says its search engine will use its latest AI technologies, such as LaMDA, PaLM, image generator Imagen and music creator MusicLM” [7]. The phrase *search engine* stands for the main part of the whole system of AI.

10.02.2023: Google v Microsoft: who will win the AI chatbot race? [8]. The following five phrases were selected for review:

1. notice the inaccuracy = to see or become conscious about a situation in which a fact or measurement is not completely correct or exact.¹⁴ “Experts were quick to notice the inaccuracy — as were investors” [8]. The phrase *notice the inaccuracy* tells about the mistake, which became evident to many authorities about new discovery.

2. up-to-date = modern, recent, or containing the latest information.¹⁵ “...a more powerful ver-

sion of ChatGPT, would help users refine queries more easily, give more relevant, up-to-date results and make shopping easier” [8].

3. overshadow the company = to cause someone or something to seem less important or less happy.¹⁵ “While initially it feels like Google rushed Bard to market with the Microsoft ChatGPT deal and event overshadowing the company, this race will be a long one” [8]. The phrase *overshadow the company* depicts the scarifying steps the company takes in order to promote its product in the market in present days.

4. large language models = artificial intelligence tools that can read, summarize and translate texts and predict future words in a sentence letting them generate sentences similar to how humans talk and write.¹⁶ “Experts have warned that large language models, which are the basis for Bard and ChatGPT, are prone to errors because of the way they are built” [8].

5. a phrase predictor = a system that has memorised a billion books so that it can guess what comes after the question you ask it [8]. *A phrase predictor* is not the smartest programme, there are other programmes that are cleverer, faster and more intelligent.

18.02.2023: From retail to transport: how AI is changing every corner of the economy [9]. The following five phrases were selected for review:

1. a tussle for supremacy = a fight for the leading or controlling position.¹⁵ “Two of the world’s largest tech companies announced plans for AI-enhanced search this month, ratcheting up a tussle for supremacy in the artificial intelligence space” [9]. The phrase *a tussle for supremacy* indicates a competitive process in development in the sphere of AI.

2. agri-tech innovation = innovation in the field of agriculture. “Many agri-tech innovations will help us to be kinder to the farmed environment as well as more efficient and profitable” [9]. The phrase *agri-tech innovation* notes the advantages in robotics.

3. robots with the dexterity of the human hand = four-armed robots, designed for the delicate work of picking soft fruits [9].

4. smart grids = AI in the sector of energy which will play a central role [9]. The phrase *smart grids* is used for description of a new generation of devices

¹³ TechTarget. URL: <https://www.techtarget.com/>

¹⁴ Cambridge Dictionary of English. URL: <https://dictionary.cambridge.org/>

¹⁵ Idib.

¹⁶ Ford School. URL: <https://fordschool.umich.edu/>

Table
Analysis of the selected phrases

Group	AI as a threat and unsettlement	AI as a competition and economic changes
AI definition	1. online harm 2. the fourth industrial revolution 3. comfort zone	1. the battle of the bots 2. a tussle for supremacy
AI ways of control	1. getting shadowbanned 2. power and control 3. under threat 4. cultural fit 5. a game-changer	3. language model 4. research preview phase 5. overshadow the company
AI specialist (gender)	1. gender bias 2. gender inequality 3. a sea of dudes 4. art-mimicking life	1. robots with the dexterity of the human hand 2. smart grids
AI specialist (qualification)	1. oversight board 2. tech workforce 3. white-collar	1. search engine 2. large language models 3. a phrase predictor
AI aim	1. a similar initial impact 2. unfiltered desires 3. single-minded 4. label images 5. a shadow self	1. notice the inaccuracy 2. up-to-date 3. predictive maintenance 4. agri-tech innovation
AI result	1. reach a milestone	1. an appetite for AI-enhanced search

Source: Compiled by the author.

from smart meters and electric vehicles to solar panels and heat pumps able to improve efficiency.

5. predictive maintenance = replacing parts before they fail and potentially requiring fewer technicians [9].

Conclusion

The lexical analysis of the articles reveals a number of phrases that can be used by students in their studies. As a result, 21 phrases in the category of **AI as a threat** and 15 phrases in the category of **AI as a competition** were selected.

AI as a threat: online harm; getting shadow-banned; gender bias; label images; oversight board; gender inequality; tech workforce; a sea of dudes; art-mimicking life; cultural fit; a game-changer; comfort zone; a shadow self; unfiltered

desires; power and control; single-minded; under threat; the fourth industrial revolution; reach a milestone; a similar initial impact; white-collar.

AI as a competition: the battle of the bots; an appetite for AI-enhanced search; language model; research preview phase; search engine; notice the inaccuracy; up-to-date; overshadow the company; large language models; a phrase predictor; a tussle for supremacy; agri-tech innovation; robots with the dexterity of the human hand; smart grids; predictive maintenance.

Further analysis of the selected phrases can be presented in the following groups according to their meanings and context of usage (*Table*).

The table above clearly represents the key points of AI from the view of threat and competition.

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