# The Impact of AI From the Perspective of Multilingual Students

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## Abstract

In a world marked by the rapid ascension of AI technology, the consequences of this transformation extend across industries. Automation is becoming more prevalent, and human-machine interactions are redefining job markets. This article delves into the influence of Artificial Intelligence (AI) on the professional landscape, with a focus on the experiences of multilingual students. As AI technologies reach their zenith, traditional, labor-intensive sectors are adapting to the reality of AI-induced unemployment. The shift is most apparent in fields dependent on manual labor, such as construction, manufacturing, and electronics assembly. Industries that have thrived on repetitive, labor-intensive tasks are now transitioning to AI, replacing human workers with automated machines that offer precision, efficiency, and reduced operational risks. Consequently, we are witnessing the onset of an AI-induced unemployment wave that has far-reaching implications. Parallel to the automation of manual labor, language-related sectors are undergoing substantial changes. Translation, simultaneous interpretation, foreign language instruction, and editorial work are no exceptions. The meteoric rise of machine translation, fueled by advances in AI, has reshaped this landscape. Machine translation, evolving from rudimentary word-for-word conversion to a context-aware understanding of language nuances, is poised to challenge human translators. However, its capabilities remain concentrated in widely used languages, and challenges arise when translating less common or non-universal languages. The predicament of translating non-universal languages underscores the limitations of AI, demonstrating that it can provide invaluable assistance but may not replace the finesse of human language experts. This shift leaves multilingual students and language professionals in a unique position. They can add value by leveraging their deep understanding of languages, cultures, and contextual nuances. The skill of bridging linguistic and cultural gaps is becoming increasingly indispensable in international business, diplomacy, and cross-cultural communication. As the AI era advances, multilingual individuals must recognize the unique skills they possess in understanding emotional, cultural, and contextual subtleties. In an environment where AI excels at translating factual content but falls short in conveying the emotions of a letter, the nuances of a poem, or the cultural depth of a phrase, multilingual students and language professionals stand as indispensable figures.

**Key words:** AI impact; AI era; AI unemployment wave; Multilingual students; Machine translation

## 1. THE AI ERA OF RAPID DEVELOPMENT

### 1.1 The Current Era

We are currently in an era of rapid change, where reality and dreams coexist. It is an era characterized by the rapid development of AI technology. Peace and development are the themes of our time. With the rapid development of the internet and ever-evolving technology, AI technology has transitioned from being immature to mature, turning dreams into reality. The increasing applications of AI technology in contemporary life mean that we are either already in the AI era or on the brink

of entering it. This era brings continuous surprises, primarily seen as an increase in productivity, making work more efficient and life more comfortable and convenient (Han, 2021).

## 1.2 Rich Achievements in Artificial Intelligence

Recently, IDC and Inspur Information jointly released the "2022-2023 China Artificial Intelligence Computing Power Development Evaluation Report." The report comprehensively assesses the development trends of AI computing power, regional distribution, and industry penetration. It aims to provide valuable references and action recommendations for promoting the integration of the digital economy and the real economy. The report indicates that China's AI computing power continues to grow rapidly, with the intelligent computing power reaching 26.8 EFLOPS in 2022, surpassing general-purpose computing power. It is estimated that the annual compound growth rate of China's intelligent computing power will reach 52.3% in the next five years (Zhan, 2022). Furthermore, in the backdrop of a new wave of technological revolution and industrial transformation, artificial intelligence remains a core driver of high-quality development across various industries, effectively enhancing economic benefits, innovation, green benefits, and value-added products in these industries.

## 2. THE IMMINENT WAVE OF AI-INDUCED UNEMPLOYMENT

### 2.1 AI Impact Leading to AI-Induced Unemployment in Traditional Industries

While people are enjoying improved living standards, a new crisis is quietly brewing. The growing power of AI technology is putting many traditional job positions at risk, particularly in industries that heavily rely on manual labor. These industries include masons, mixers, mortar workers, laborers, bricklaying workers, construction material manufacturers, and temporary workers on construction sites. Workers on assembly lines in electronic factories also face the risk of being replaced by artificial intelligence. In regular manual labor, various problems can arise, as human error is more likely than machine error. In some specific industries, accidents such as goods falling, high-altitude falls, and other work-related injuries are a significant concern. In such cases, if companies have sufficient capital, they often opt for highly precise automated machines to replace manual labor to avoid potential risks and save employment costs. The saved funds are usually reinvested in machine maintenance and upgrades. Consequently, a wave of AI-induced unemployment is sweeping through most traditional industries, and it is both a necessity for development and a trend of the times (Cai, 2022).

## 2.2 Increased AI Penetration in High-Tech Industries

According to statistics, the top five industries with the highest application penetration of artificial intelligence in China in 2022 were the internet, finance, government, telecommunications, and manufacturing. In the service industry, artificial intelligence continues to contribute to improving user experiences, such as intelligent customer service, precise recommendations, and targeted marketing. In public health, AI plays an essential role in precise scientific epidemic prevention, strengthening the construction of public health safety systems, and contributing significantly to various dimensions such as virus evolution prediction, vaccine and drug development, and auxiliary diagnosis. Moreover, scientists increasingly use AI technology and methods to build models from data, focusing on areas such as new drug development, genetic research, and new material development, accelerating the exploration of cutting-edge scientific issues (Zhan, 2022).

## 3. THE MASSIVE CRISIS IN LANGUAGE-RELATED INDUSTRIES

### 3.1 AI's Transformation of Language-Related Industries

As artificial intelligence becomes pervasive in various aspects of people's lives, industries related to language, such as translation, simultaneous interpretation, foreign language teaching, and newspaper editing, have also undergone significant transformations. With the widespread adoption and gradual improvement of machine translation technology, the upheaval caused by AI is clearly visible.

The concept of artificial intelligence dates back to the 1950s and 1960s. However, in the 21st century, with the continuous improvement of computer processing power and the accumulation of vast amounts of data in the age of the internet, AI has entered a new phase of development. In this context, the translation industry has also undergone various changes, with the most significant being the emergence of machine translation. The development of machine translation aligns with the trajectory of AI development, progressing from translating individual words to sentences and entire articles. Initially, machine translation could only produce sentences that roughly adhered to basic grammar, but over time, it started to generate translations that better matched linguistic habits, improving readability and accuracy. Machine translation has evolved beyond literal translation to include an understanding of the true meanings of words in the context, akin to human-like comprehension, considering context, and producing output that aligns with the linguistic conventions and idiomatic expressions of the target language (Yin, 2017).

## 3.2 The Predicament of Translating Non-Universal Languages

However, the rapid breakthrough of AI technology in the translation industry is uneven. For example, AI's translation capabilities are quite comprehensive in the six official working languages recognized by the United Nations: Chinese, English, Arabic, Russian, French, and Spanish. AI can accurately segment and convert text to convey the meaning of the original text, providing accurate and relatively linguistically correct sentences. For example, if you search the English word "turkey" on various online translation tools, you will find a comprehensive explanation, including different meanings like "[C] turkey, [U] turkey meat, roasted turkey meat, [C] failure, [C] fool." Additionally, the first example sentence provided is: "It's traditional in America to eat turkey on Thanksgiving Day," offering context about the cultural significance of the word (Yi, 2019). In most smaller languages, such as Japanese, Korean, and several Afro-Asian languages, the quality of translations is often less satisfactory. For example, consider the Indonesian word "Gotong Royong," which represents the concept of "mutual assistance among neighbors and friends in times of need" in Indonesian culture. It is a common and significant phenomenon in Indonesia, but online translation tools often provide unreliable translations. Attempts to translate "Gotong Royong" yield meaningless results. This highlights a challenge: these smaller languages are not widely taught or used around the world, and there is limited data available for AI training. As a result, these AI applications are less capable of accurately and contextually translating text in such languages (Sun, 2020).

### 3.3 The Pros and Cons of Machine Translation

The advantages of machine translation lie in its speed, scalability, and cost-effectiveness. It can translate vast amounts of text in seconds and is suitable for rapidly generating translations of frequently used languages. However, it is not without limitations. The disadvantages include errors in semantics, grammar, and inadequate handling of context. In languages with relatively fixed structures and expressions, such as academic papers, legal documents, and instruction manuals, machine translation may achieve relatively satisfactory results. However, when translating literature, art, news, or spoken languages, machine translation tends to generate results that are distant from the author's original intent and feelings. It fails to capture the subtleties, nuances, and cultural connotations present in such texts. Therefore, for multilingual students or professionals, the translation and interpretation market is undergoing significant changes. They must adapt to the emergence of machine translation while exploring how their unique skills can add value in this AI age (Ding, 2018).

## 4. OPPORTUNITIES FOR MULTILINGUAL STUDENTS IN THE AI ERA

### 4.1 Language-Related Skills Remain Essential

While AI is advancing in the field of translation and interpretation, it is crucial to understand that AI technology is a tool created by humans. It is neither a human nor a creator. It operates within the constraints of its programming, limited by the data and algorithms it has been trained on. The tasks it excels at are rule-based and rely on predefined patterns, data, and statistical modeling. For language-related tasks, AI can certainly generate translations that are accurate to a certain extent. However, it cannot comprehend context, culture, emotions, and the art of language use in the same way a human can. This is where multilingual students or language professionals have an edge.

In multilingual programs, students not only master two or more languages but also learn about the associated cultures, customs, and communication nuances. They become attuned to the subtleties of language that are often lost in machine translation. They understand the idiomatic expressions, humor, and emotional depth of languages, allowing them to produce translations or interpretations that go beyond mere words. In the age of AI, human skills in understanding the emotional, cultural, and contextual nuances of languages become more valuable than ever.

### 4.2 Adding Value Through Multilingual Proficiency

Multilingual students have an opportunity to add value to their work by leveraging their proficiency in multiple languages and their deep understanding of cultural contexts. This value extends beyond translation and interpretation to areas like cross-cultural communication, international business, diplomacy, and global marketing. They can serve as bridges between different cultures, helping to facilitate understanding, cooperation, and meaningful communication.

AI may excel in translating straightforward, factual content, but when it comes to conveying the emotions of a heartfelt letter, the nuances of a poem, or the cultural significance of a phrase, human language professionals shine. They can offer personalized, context-aware translations and interpretations that resonate with the target audience. This capability is essential for businesses, governments, and organizations looking to expand their global reach and engage with diverse audiences.

## 5. CONCLUSION

The rapid development of AI technology is transforming industries worldwide, leading to the automation of tasks and, in some cases, causing a wave of unemployment, particularly in traditional manual labor-intensive sectors.

While AI's impact on the labor market is undeniable, it also presents unique opportunities for multilingual students and language professionals. As AI technology advances in language-related tasks, human skills in understanding the emotional, cultural, and contextual nuances of languages remain irreplaceable. Multilingual students can leverage their language proficiency and cultural understanding to add value across various industries, including cross-cultural communication, international business, diplomacy, and global marketing. In this AI era, while the landscape of language-related professions is changing, the unique abilities of multilingual individuals remain essential and in demand.

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