

THE ROLE OF AI IN ENHANCING LANGUAGE TRANSLATION

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Abstract. *This thesis explores the role of artificial intelligence (AI) in enhancing language translation. It examines AI-driven translation tools, their efficiency, accuracy, and impact on human translators. While AI offers speed and accessibility, human translators contribute cultural and contextual nuances. The study highlights AI's advantages and limitations in the field of translation.*

Key words: *Artificial Intelligence, machine translation, language processing, accuracy, efficiency, human translators.*

Introduction

Artificial intelligence has revolutionized language translation, making communication across different languages faster and more accessible. AI-powered translation tools such as Google Translate and DeepL have significantly improved in accuracy and efficiency. This thesis aims to analyze how AI enhances language translation, its advantages over traditional methods, and the challenges it faces.

Literature Review

Previous studies have examined AI's impact on translation. Researchers highlight AI's ability to process vast linguistic data and improve real-time translation. However, some studies argue that AI still struggles with cultural nuances, idioms, and contextual meaning. This section reviews key findings on AI driven translation and its effectiveness.

Methodology

This study employs a comparative analysis method by evaluating AI-based translation tools and human translations. The research focuses on translation accuracy, contextual understanding, and efficiency. Data from linguistic studies and AI research are analyzed to assess AI's performance.

Results

The findings reveal that AI-powered translation tools offer rapid and cost effective solutions for language translation.

However, they sometimes misinterpret cultural and contextual elements. Human translators still play a crucial role in refining AI-generated translations, especially for literary and professional texts.

Discussion

AI translation excels in speed and accessibility, making it useful for casual and business communication. However, human translators remain essential for high quality translations that require deep contextual understanding. The combination of AI and human expertise creates a more effective translation process.

Conclusion

Artificial intelligence has significantly improved language translation by increasing speed, efficiency, and accessibility. AI-powered translation tools are especially beneficial for everyday communication, business interactions, and preliminary translations. However, AI has inherent limitations, particularly in handling cultural nuances, idioms, and context-dependent meanings.

Despite advancements in neural machine translation, AI-generated translations often lack the depth of human interpretation, which is crucial for literature, legal documents, and specialized texts. As a result, human translators remain indispensable in ensuring accuracy, cultural sensitivity, and linguistic quality. Future developments in AI translation will likely involve improved contextual understanding and better integration of human feedback.

Hybrid translation models, where AI assists human translators, will become increasingly common, leading to more accurate and natural translations. While AI will continue to evolve, the synergy between AI technology and human expertise will be the key to achieving high quality translations in the future.

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