

**Anton Kaiafiuk**

PhD student

*Kyiv National University of Technologies and Design (Kyiv)*

**Dmytro Statsenko**

Scientific supervisor – Candidate of Technical Sciences, Assoc. Prof.,

*Kyiv National University of Technologies and Design (Kyiv)*

**Yelizaveta Isakova**

Language consultant, PhD in Philology, Assoc. Prof.

*Kyiv National University of Technologies and Design (Kyiv)*

## **EFFECTIVE UTILIZATION OF LARGE LANGUAGE MODELS IN EDUCATION: TASK DECOMPOSITION METHODS AND QUERY OPTIMIZATION**

We are witnessing the rapid rise of Large Language Models (LLMs), prompting varied reactions: some fear their impact, while others question their reliability. This presentation emphasizes that the issue isn't AI replacing professionals, but professionals being surpassed by those effectively integrating AI into their work. It offers a concise overview of LLMs and demonstrates their potential applications in the professional development of specialists.

LLMs are advanced AI systems designed to process and generate human-like text by analyzing extensive data. They utilize a neural network design known as the transformer architecture, enabling them to assess relationships between words in a sentence, regardless of order.

Trained on vast datasets, often encompassing large portions of the internet, these models can generate coherent and contextually relevant responses across various topics. However, despite their impressive capabilities, LLMs can sometimes produce information that seems plausible but is actually incorrect or nonsensical—a phenomenon known as "hallucination."

To mitigate these inaccuracies, breaking down complex tasks into smaller, more manageable components is beneficial. Techniques such as task analysis, which involves identifying the necessary steps to master a subject, and chunking, which groups related information into smaller units, can enhance comprehension and retention. For instance, when studying a complex subject, one might divide it into key themes or concepts and tackle each individually. To leverage LLMs in this process, you can prompt the model with: "Decompose [complex topic] into its fundamental components and suggest a

sequence for learning them." This approach guides the LLM to provide a structured breakdown, enabling a systematic and effective learning path.

To further reduce the likelihood of hallucinations and enhance the effectiveness of interactions with Large Language Models (LLMs), employing advanced prompt engineering techniques is essential:

1. Chain-of-Thought Prompting: Encourage the model to articulate its reasoning process step-by-step. By requesting the LLM to "think through this task step-by-step," you promote transparency in its thought process, leading to more accurate and reliable responses.

2. Chain-of-Verification (CoVe): Implement a verification loop where the model generates an initial response, then formulates questions to verify its own answer, and finally reassesses the initial response based on these verification questions. This method enhances the model's self-assessment capabilities and reduces errors.

3. Step-Back Prompting: Encourage the model to consider a higher-level abstraction of the problem before delving into specifics. Prompting the LLM with a broader question related to the main task allows it to approach the problem more holistically, leading to more accurate and contextually relevant answers.

By integrating these strategies into your prompts, you can significantly improve the accuracy and reliability of LLM outputs, thereby minimizing the occurrence of hallucinations and enhancing the overall utility of the model in professional and educational contexts.

In conclusion, the optimal approach lies in balancing perspectives: Large Language Models (LLMs) are not poised to replace professionals, nor should they be dismissed as unreliable sources of information. Instead, the key is to collaborate synergistically with LLMs, leveraging their capabilities to enhance productivity and achieve superior outcomes more efficiently. This partnership necessitates the application of critical thinking skills to meticulously evaluate and validate the information provided by LLMs. By thoughtfully integrating LLMs into our workflows and rigorously assessing their outputs, we can harness their potential while ensuring the accuracy and reliability of the results.

## REFERENCES

1. AWS. (n.d.). What are Transformers? Amazon Web Services. <https://aws.amazon.com/what-is/transformers-in-artificial-intelligence/>

2. Cloud Google. (n.d.). Break down complex tasks into simpler prompts. Google Cloud. <https://cloud.google.com/vertex-ai/generative-ai/docs/learn/prompts/break-down-prompts>
3. IBM. (n.d.). What are LLMs? IBM Think Blog. <https://www.ibm.com/think/topics/large-language-models>
4. Prompt Engineering. (n.d.). ADAPT - Dynamic Decomposition and Planning for LLMs in Complex Decision-Making. Prompt Engineering. <https://promptengineering.org/adapt-dynamic-decomposition-and-planning-for-llms-in-complex-decision-making>
5. Prompting Guide. (n.d.). LLM Agents. Prompting Guide. <https://www.promptingguide.ai/research/llm-agents>
5. The Learning Agency. (2024, July 15). Improving AI-Generated Responses: Techniques for Reducing Hallucinations. The Learning Agency. <https://the-learning-agency.com/the-cutting-ed/article/hallucination-techniques/>

**Valeriia Khomenko**

*Kyiv National University of Technologies and Design (Kyiv)*

**Scientific supervisor – Assoc. Prof. Kseniia Kugai**

## **CULTURAL CONTEXT IN TRANSLATION: THE ROLE OF LOCALISATION IN MODERN COMMUNICATION**

In the increasingly globalised world, businesses want to expand their presence in international markets. However, success on the global stage requires more than just translating into other languages. This is where localisation enters the scene – adapting products and services to different regions’ cultural, social, and linguistic characteristics.

This study aims to analyse the term “localisation” and explore its concept.

The term “localisation” has appeared relatively in the recent past: at the end of the last century, the English-speaking professional community began to use the concept of “transcreation”, which refers to the adaptation of the brand’s linguistic elements that reflect its content and message to the target audience in order to preserve the primary sense, meaning, and idea of the brand during integration into another language. Today, this process is commonly referred to as localisation (Головацька, 2023, 91).

However, the general idea of localisation has been introduced previously. The adaptation of texts to the cultural, social, and academic needs and expectations of the target audience has been a common practice throughout literary history (Селіванова, 2012). In a broad sense, localisation encompasses inter- or intra-linguistic textual processing or rewriting.