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Кафедра иностранных языков технических факультетов

PROJECT SUMMARY

по дисциплине «Иностранный язык»

Тема: Text Generation Using Diffusion Models

Рецензия: _____

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Балл: _____, ECTS _____

Оценка _____

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«____ » _____ 20____ г.

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Новосибирск 2025

Text Generation Using Diffusion Models

Today, text generation is primarily handled by autoregressive models like GPT. At the same time, diffusion models have proven to be highly successful in creating images.

Applying diffusion models to text creation is of great interest because it could become a novel and promising approach.

However, very little is known about how well diffusion models can generate coherent text in Russian.

The aim of this study is to investigate the possibility of using diffusion models for text generation. The specific objective is to adapt and fine-tune a pre-trained diffusion model for the Russian language and evaluate its performance against traditional autoregressive baselines.

The initial stage will be to conduct a literature review on diffusion models and their current applications in NLP. The next phase will consist of the selection and adaptation of an open-source diffusion model architecture for text. Subsequently, the model will be trained and fine-tuned on a curated corpus of Russian texts. In the follow-up phase of the study, a comparative analysis will be performed using standard NLP metrics.

It is expected that the adapted diffusion model will demonstrate good results. This work can serve as a foundation for using this approach in Russian-language applications.

The proposed research will concentrate on generating relatively short texts. The creation of long texts or work with other languages is beyond the scope of this study. The results could be useful for creating chatbots, creative writing tools, and data augmentation.