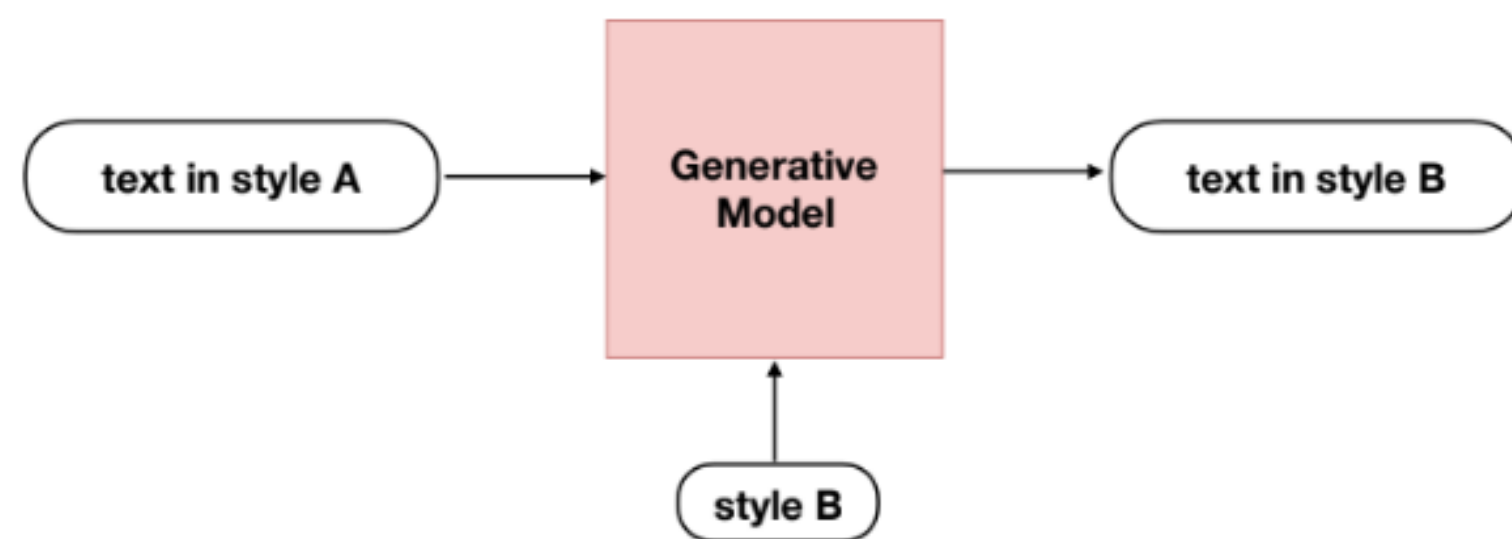# TEXT STYLE TRANSFER AND CONTENT GENERATION

INTRODUCTION

Text Style Transfer aims to change the text's stylistic properties while retaining its meaning. It aims to control specific attributes in the generated text, such as politeness, emotion, humor, and many others. Currently, the authors are working on three different projects.

1. Hate Speech to Non-Hate Speech

Hate and abusive language in speech is a pressing problem on social media platforms. Neurological and sociological research has proven that hate speech leads to 'a dehumanizing effect', which lessens our empathy for other people. Thus, there is a need to address hate speech. Previous work aimed at detecting hate speech in the text. However, a little progress has been made regarding transforming hateful sentences into non-hateful ones, a potential next-step after detecting the hateful content. In this work, we are creating methods for transforming hateful text into non-hate ones. This is an unsupervised style transfer task to redact the hateful text while maintaining a high level of fluency and preserving the original text's content.

2. Informal text to formal text

A formal document such as a rental agreement consists of several necessary features and other secondary/optional features or bullets of information in its content body. In our project, we aim to build a system that will generate such a document given the right features, extracted from an informal conversation, using techniques in data to text generation and style transfer. This shall require leveraging feature extraction techniques on informal texts such as a conversation between a tenant and landlord, etc. Once we have features from an informal conversation, the task is to generate formal documents. Thus, the project's larger goal lies in achieving informal to formal text style transfer pertaining to a particular setting.

3. Multimodal Summarization

Multi-modal tasks need joint representations for text and image. Traditional summarization problems generate a summary of a large body of text. However, in multi-modal summarization, we generate a summary of textual and visual input. We are looking at MSMO and MMSS datasets which are the leading works in this field. Our approach is based on fine-tuning visiolinguistic transformers for these downstream tasks. Visiolinguistic transformers learn joint representations for the image and text through various pre-training tasks. Visiolinguistic transformers have shown promising results in image captioning and visual question answering. We aim to evaluate and its performance for language generation and use it for multimodal summarization.

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