

Targeted Writing Style Text Generation

A Proposal for Final Project

By Nathan Harris

CSPB 3832 Natural Language Processing - Summer 2025

If majority of internet users are utilizing ChatGPT, or similar, to generate blog posts, social media posts, write emails and so forth, we all might start writing and sounding like an LLM. Even if someone avoids using LLMs, the majority of text they encounter online could be generated by AI and therefore influences in subconscious ways. I am interested in developing a tool to help people have their writing stand out using their own distinct voice amid a sea of LLM generated text online.

For my project I would like to experiment with generating text in an author's writing style based on writing samples. Ideally a user would have a large amount of writing samples covering a wide range of topics and mediums, but I would like to also experiment with a small slice of a writer's corpus and see how effective that can be as well. For my experiment, I can utilize well known authors with public domain text, as well as a modest corpus of my own writing.

My primary technique will include fine tuning a small pretrained model with a corpus. I will then provide the model with a bulleted outline of a blog post written with neutral language and the model will generate text according to the fine tuning and the outline. For evaluation, I can utilize Bleu Score, Rouge Score, Average Sentence Length, and Perplexity. I also plan to incorporate Human Evaluation of my own as well as some of my peers. We will compare the output to a generic writing styled LLM output without any information related to writing style. We will then rate the distinctiveness and content preservation from 1 to 5.

In addition to the primary technique, if time permits, I would like to replicate the experiment and compare the results using a readily available LLM such as ChatGPT and engineering a prompt. I would provide writing samples and have ChatGPT provide me a writing style analysis which will then be used to engineer a prompt for generating distinct text matching the writing style. The reason I would like to explore this approach is that it can be utilized by a nontechnical person. It will be beneficial to know if the results are similar to fine tuning the pretrained model.