Project Proposal
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DATASCI 266 NLP

Idea

Ever searched health symptoms online and were left more worried than before? I plan on building a model that will assess your described concerns and offer a discussion with suggestions and possible conditions, with an empathetic approach.

The main challenge is accurately classifying conditions. Currently, LLMs can offer some insight, but I seek to use the data listed below to fine-tune a few models to more accurately assess the said conditions. I am interested in exploring techniques such as LoRA for efficiency. From my experience, the "empathetic" responses can come through prompt engineering, although this might need to be further considered after the fine-tuning. Good implementations currently exist, in both open-source and LMaaS LLMs, however, I seek to improve upon LLM output for symptom screening. I am considering building out a custom algorithm for "model competition" allowing for multiple LLMs to compete for the output, or a RAG-based approach if I can find sufficient data, but this needs some more thought.

The goal is to give insight into medical applications to LLMs, not replace healthcare professionals. The importance of this lies in the speed and accessibility anyone could receive basic screenings. I love the idea of a free tool to help people discuss medical concerns, instead of being left worried after an internet search.

Data

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