Q1a. ChatGPT for text-classification:

A screenshot of a computer

Description automatically generated

A screenshot of a black and white text

Description automatically generated

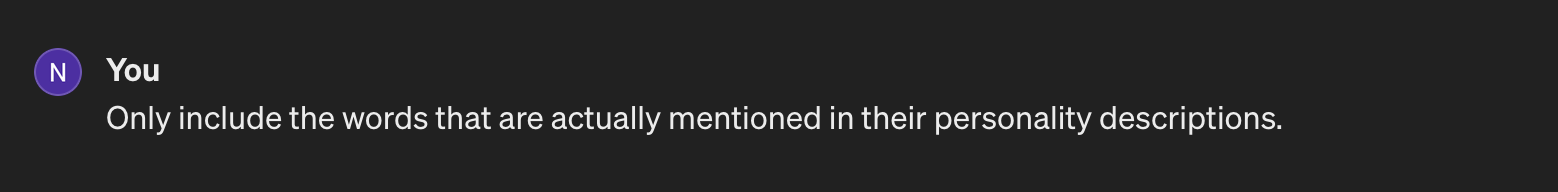
Q1b. ChatGPT for Topic Modeling:

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A screenshot of a computer

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Q1c. ChatGPT for Text Clustering:

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A screenshot of a chat

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Q2. Customer service chat-bot

Screenshot #1:

A screenshot of a chat

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Screenshot #2:

A screenshot of a black and white page

Description automatically generated

Screenshot #3:

A screenshot of a black screen

Description automatically generated

Q3. Please evaluate LLMs' performance for questions (1) and (2). Briefly discuss your evaluations on LLMs outputs for each question (out of 10).

Ans: For Q1, the LLM performed well and did not need extra prompts to arrive at the right answers. But for Q2, there were some mistakes it was doing by overlooking some details on how an actual agent would interact with a customer. This was rectified by adding information on prompts on what information should be included. For the first attempt, I would score its response a 7, an 8 for its second, and a 9 for the final one.

Q4. If you are asked to use RAG to create a chatbot for a company, what kind of bots do you want to create? You are free to choose any application context you are interested in and be creative. Please discuss the context of the application and explain why RAG and the bot you designed would help address the business or societal needs.

Ans: I would choose a bot that would help me analyze finance documents and company call transcripts so I would invest better in stocks. I would include these documents in tuning a regular model to train it in that domain and alert the customer when they are in a potential risk of losing money on a company. I would also make to include the quarterly comparative trend report of each company to notice overall growth pattern of those companies.