Smart Lightweight Medical Query System (SLiMQ)

- Design a smart medical response system to aid doctors
- The solution should be lightweight enough to run on off the shelf machines/edge devices

User : What are tips for managing my bipolar disorder?
System : Along with seeing your doctor and therapist and taking your medicines, simple daily habits can make a difference. Start with these strategies.

- Pay attention to your sleep. This is especially important for people with bipolar disorder... (178 words truncated)
- Eat well. There's no specific diet... (29 words truncated)
- Focus on the basics: Favor fruits, vegetables, lean protein, and whole grains. And cut down on fat, salt, and sugar.
- Tame stress. (81 words truncated) You can also listen to music or spend time with positive people who are good company. (73 words truncated)
- Limit caffeine. It can keep you up at night and possibly affect your mood. (47 words truncated)
- Avoid alcohol and drugs. They can affect how your medications work.

- Requirements:
  - A python/Jupyter based environment (you can create a pure C++ application as well)
  - Pre-trained LLM for answer completion
  - A mechanism to store and access the local shared data
- Deliverables:
  - A Jupyter Notebook/Standalone app containing the solution

Problem workflow

- LLMs have knowledge cutoff or not trained for specific use cases or private data
- Use the external documents (MASHQA) to refine your result
- Example:
  - Query, "What are tips for managing my bipolar disorder?"
  - Vanilla LLM: “Using a psychiatric medication can help you manage your mood and anxiety”
  - Using docs: “Establish routines. Regular sleep, eating, and activity appear to help people with bipolar disorder”
- Further detailed challenges are shared in the problem statement