Task: Build an AI-powered Text Summarizer

Objective:

Develop a Python application that uses AI/NLP techniques to summarize large texts. Demonstrates understanding of AI models, NLP preprocessing, and Python programming.

Task Requirements:

Input & Output:

- Input: Large text (e.g., article, research paper)
- Output: Concise summary (3-5 sentences)

Implementation:

- Use Python with NLP libraries like transformers, spaCy, or NLTK
- Implement at least one pre-trained transformer model for summarization (e.g., facebook/bart-large-cnn or t5-small)
- Provide option to summarize multiple articles in a batch

Optional Enhancements:

- Web interface using Streamlit or Flask to input text and display summary
- Compare extractive vs abstractive summarization
- Performance metrics (e.g., ROUGE score) to evaluate summary quality

Documentation:

- Include setup instructions, library requirements (requirements.txt), and usage guide
- Brief explanation of chosen model and NLP approach

Deliverables:

- GitHub/GitLab repository link with Python code
- Working script or small web interface
- Documentation explaining setup, usage, and model details

Evaluation Criteria:

- Correct functionality of summarization
- Use of AI/NLP libraries and models effectively
- Code quality and structure
- Documentation clarity

Optional: Web interface or evaluation metrics implementation