Query Expansion and Synonym Recognition Tool

Powered by Flask, NLTK, Sentence BERT, and Together API
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Introduction

- Problem Statement: Importance of enhancing search with synonym recognition.
- Goal: Provide a tool that identifies synonyms to expand user queries.
- Key Features:
  - Backend with NLP and LLM integration.
  - Simple and intuitive frontend with advanced copy features.

Backend Functionality

- Core Features:
  - Process user queries to find synonyms.
  - Options for synonym retrieval:
    - NLTK-based finder
    - ConceptNet API + Sentence BERT
    - Llama-Vision-Free (LLM).
  - Expand query using retrieved synonyms.
- Tech Stack:
  - Flask (Backend framework)
  - Python libraries: NLTK, Sentence BERT.
  - Together API: Integration for the Llama-Vision-Free LLM

Frontend Features

- User Interface:
    - Text input for queries.
    - Options to select retrieval algorithm.
    - Synonym results displayed in a list.
- Copy Functionality:
    - Copy individual synonyms using "Copy" buttons.
    - Copy all synonyms with a "Copy List" button.

Set Ups

Prerequisites

- Python: Version 3.12.2 or later
- pip: Python package manager
- Environment Setup for LLM Integration
  - Create an account (or log in if you already have one) on Together AI
  - Set the environment up

Demo

Thank You :)