Python Video Utility App

This is a desktop application built with Python's Tkinter and OpenCV libraries. It provides tools for basic video editing, including frame extraction, clip merging, and an AI-powered auto-clipping feature that detects scene changes.

Prerequisites

Before running the application, you need to have Python installed. The following libraries are also required and can be installed using `pip`, the Python package manager.

You can install all of the required libraries at once by running this command in your terminal:

pip install opencv-python scenedetect pillow

How to Run the Application

Once you have the prerequisites installed, you can run the application directly from your terminal with the following command:

python extract_frame.py

How to Use the Application

When the application opens, you'll see a simple user interface.

1. **Add Clips:** To get started, click the "Add Clip" button to select a video file. The file path will appear in the "Selected Clips" list.
2. **View and Reorder:** You can select a clip from the list to preview it on the right side of the screen. Use the "Move Up" and "Move Down" buttons to change the order of the clips.
3. **Merge Clips:** Once you have multiple clips in the list, you can click "Merge Clips" to combine them into a single video file.
4. **AI Auto Clip:** To automatically detect scenes in a selected video, click "✨ AI Auto Clip ✨". The application will analyze the video and create a single compiled video containing all the detected scenes.

5. **Reverse and Extract:** You can also select a clip and use "Reverse Clip" to create a reversed version or "Extract Last Frame" to save the final frame of the video as an image.

How to Alter the Code Using an AI Assistant

The easiest way to continue working on this project is to use a large language model like the one you are currently interacting with. You can describe the changes you want to make in plain English, and the model will generate the necessary code updates for you.

Here are some example prompts you could use to modify the application:

- "Add a new button to the UI that allows me to trim a selected clip to a specific start and end time."
- "Change the UI theme from dark to light mode, using more vibrant colors like green and yellow."
- "I want to add an 'About' menu option to the top of the application that displays a short description of the app and its creator."

By explaining what you want to do, you can quickly and easily evolve this application without writing the code from scratch.