

HOW TO RUN THE PROJECT

1) Load the Code

- Open your Python IDE (such as Jupyter Notebook, VS Code, or PyCharm).
- Copy and paste the complete AI Magic Song Creation code into the IDE.
- Verify the code to ensure there are no syntax errors.
- Run the code to start the application.

2) Run Step by Step

Step 1: Setup Initialization

- After running the program, the initialization function runs. It initializes:

User input (either text or audio).

Loads the pre-trained language model for lyric generation.

Loads the Text-to-Speech (TTS) model for singing voice synthesis.

Loads background music tracks or music generation module.

Step 2: Input Handling

- The system prompts the user to input:

Either a single word or a full sentence through a text box. Or an audio file through the file upload option (for speech recognition).

Step 3: Processing Input

- If input is text:

The text is sent to the lyrics generation module.

- If input is audio:

The speech recognition module transcribes the audio into text.

The transcribed text is then sent to the lyrics generation module.

Step 4: Lyrics Generation

- The lyrics generation model processes the input and creates full song lyrics.
- The lyrics are structured into verses, choruses, and bridges where applicable.
- The generated lyrics are displayed on the screen for verification.

Step 5: Singing Voice Synthesis

- The lyrics are passed to the TTS singing voice synthesis module.
- The TTS model converts the text into sung vocals with the desired style.
- Background music is generated or selected and mixed with the singing voice.

Step 6: Playback and Save

- The system plays the generated full song with vocals and music.
- The user is given the option to save the generated song as an audio file (MP3/WAV).

3) Test the Program

Power On:

- Ensure your system has internet access (if cloud models are used) and all necessary models are loaded.

Input Text or Audio:

- Enter a word or sentence into the text box OR upload an audio file.
- Observe:

Lyrics being generated and displayed.

The system singing the generated song with background music.

Playback:

- Listen to the generated song playback.
- Verify that the audio is correct and corresponds to the input provided.

Save:

- Click "Save" to store the generated song on your device.

Debugging:

- Check the console or logs to see status messages printed by the system using print() statements (such as input received, lyrics generated, singing started, etc.).