Generative Lyrics (Readme)

Link to my GitHub code repository

https://github.com/Ziyi-Liuzy/MyNLPProject1

Code reference & LLM disclaimer

https://github.com/benjelloo/RapNet (Neural network generated lyrics)

https://github.com/vickyyyyyyy/lyrics-lstm/blob/main/preprocess.py
(Post-processing of generated lyrics)

The above code was referenced and heavily modified.

In the project, use ChatGPT to help understand some online sample code, and use ChatGPT to help find a solution when part of the code runs wrong.

1 Generate Dataset (Genius-API)

Filename: crawl-preprocess-datasets.ipynb

This code performs the following tasks using the Genius API to retrieve lyrics for a specified artist (Troye Sivan) and saves them to local files for further analysis or use.

Pre-process the dataset to remove content that is not part of the lyrics and initially standardize the text file format.

The location where the crawled lyrics are stored: <data/Troye Sivan_Lyrics.txt>

2 Markovify-generate-text

Filename: Markovify_generate.ipynb

This code is modified from week 5.[Text generation with Markov Chains]

The 'state_size' parameter of the Markov chain in this model is set to 2 so that the generative model will consider the context of the current word and the previous word to generate the next word.

3 Neural-Nets- generate-text

- 2 recurrent neural network (RNN) layers

Folder name: Neural-Net

Filename: Neural-Net/dataprep.py

perform data set preprocessing, including printing text length, processing punctuation marks, lowercase conversion of text, segmentation of text, and mapping of characters to integer indexes.

Filename: Neural-Net/model.py

define an LSTM model.

Filename: Neural-Net/Neural-Nets-generate-text-2.ipynb

Training the model and generating lyrics, postprocessing the generated lyrics

- 3 recurrent neural network (RNN) layers

Folder name: Neural-Net-layer3

Modified by Neural-Net-layer2

4 Generated Lyrics

Folder name: New lyrics

- Lyrics generated from Morkov model.

```
How do I do now?
Each morning I get to heaven?
You are, you are?
Cause there's still too young?
Each morning I get to heaven?
What if we left today?
How do I do now?
How do I do now?
You are, you are?
So how do we stay this close?
What if we left today?
So how do we stay this close?
How do I do now?
What if we run away?
You are, you are?
What if we left today?
Each morning I get to heaven?
How do I do now?
How do I do now?
What if we left today?
How do I do now?
What if we left today?
But I can't make you happy?
So how do we stay this close?
And how much of me How do we?
You are, you are?
How do I do now?
What if we left today?
What if we left today?
So how do we stay this close?
How do I do now?
How do I do now?
How do I do now?
You are, you are?
What if we left today?
```

- Lyrics generated from LSTM model.

```
My hands in this moment
I'm a feeling bit lost, with all alone, alone
But these time to ****
Like my name in the carpet
Of his way out, it's need
You and me at bay
But when the skies take a **** where you are, you are?
International through line to my heart
In my head
In the mid
The people I've said
The ones distorting
Unknown, unknown
I've been hidin' for what I wanna go
Too bad that that's all I need
I take a love in a solemn, i'm if you need me
'cause someone tell me why
I just want to see the stars with you
'cause you were the eye to say
And he came out into the park
And I see your way out the time
Don't care how late, let's die somewhere pretty, ah, ah– ah
Sad in the summer, city needs a mother
If I'm gonna waste my time, then it's time to go
Take yourself home
The people things of this window
The pinnacle of a slipping man
Everybody's I'd lost that I've ever have you
I'll know it's all working out, now
'cause there's still too long to the weekend
Too long till I drown in your hands
Too long since I've been a fool, oh
Leave this blue neighbourhood
Never knew loving could hurt this good, oh
```