

SI 630: Homework 4 Report

Name: Chenyun Tao Uniqname: cyuntao

Part 1

Given the time constraints, I used subsets of the training data based on the suggestion in the instructions: “using the first 100K lyrics is fine, as is using all lyrics from a particular genre (as long as it is not rare)”. Due to time constraint and space limit on Great Lakes, I also only run three models, where two of them are only trained 1 epoch, and I chose the other one trained 3 epochs.

1. The loss on the training for my best model is 2.4974, 3.1045, 2.3896 for each epoch (3 epochs in total), and its perplexity (on train.txt) is 13.9084.
2. The perplexity on dev data is 13.8935.
3. The perplexity on test data is 13.8351.

Part 2

I set the maximum generating length to be 1024 in this part. The lyrics for the following 5 prompts:

a. My

Generated text: My goo"

I need your help

Don't leave me lying around...

Go on, get it straight

Just let me know your name

My goo"

I need your help

Don't leave me lying around...

Go on, get it straight

Just let me know your name

My goo"

You're so important, I know that

That I'm a hero

And I must give you some love
I'm not ready for you
So take this, take this, take this
Take this, take this
Take this, take this"

And we're not on our own
You just know my love is better than yours
You just know my love is better than yours

I'll tell you everything
You'll know more
We can find ourselves
I'll let you go without you
You don't care
You know my love is better than yours

I'll tell you everything
You'll know more
We can find ourselves
I'll let you go without you
You don't care
You know my love is better than yours
I'd rather be a whore
You know I would never let you go
But you'd better hold out
Your hand
If I would just get my hands on you
You'd be my baby in heaven
And I'd want to make it through

Take this, take this, take this

Take this, take this

Take this

Take this, take this

Take this

Take this

Take this

Take this

Take this"

It will never last, it won't

It won't last

It won't last

I'm waiting here for my lover

You'll never be able to get her

You know my love is better than yours

You just know my love is better than yours

I wish you luck in heaven

Now I hope you will find

A way to stay away from that world

I'm waiting here for my lover

You'll never be able to get her

You just know my love is better than yours

You just know my love is better than yours

I wish you luck in heaven

Now I hope you will find a way to stay away from that world

I'm waiting here for my lover
You'll never be able to get her
You just know my love is better than yours
You just know my love is better than yours
I wish you luck in heaven
Now I hope you will find a way to stay away from that world

I'm waiting here for my lover
You'll never be able to get her
You just know my love is better than yours
You just know my love is better than yours
I wish you luck in heaven
Now I hope you will find a way to stay away from that world

I'm waiting here for my lover
You'll never be able to get her
You just know my love is better than yours
You just know my love is better than yours
I wish you luck in heaven
Now I hope you will find a way to stay away from that world

I'm waiting here for my lover
You'll never be able to get her
You just know my love is better than yours
You just know my love is better than yours
I wish you luck in heaven
Now I hope you will find a way to stay away from that world

I'm waiting here for my lover
You'll never be able to get her

You just know my love is better than yours
You just know my love is better than yours
I wish you luck in heaven
Now I hope you will find a way to stay away from that world

I'm waiting here for my lover
You'll never be able to get her
You just know

b. The (Note: this one is offensive)

Generated text: The 'Killing the King' is now over!

"Hey man, why don't you take a look and you go 'round and look at it from the top of my head," says Mr. Crile-Marie.

"But if this is the only thing I can control, then I'll take it from you to the last, oh, the last of the

'Don't you know, I'm not alone, I know

how to stop yourself, how to stop myself and when you see me, that's when I start to get angry,

and when I've been to the end and the world and now I'm on top of you, okay, then I start to think... yeah, I'm not alone

The 'Babies are a bitch!'

'The world's a bitch!'

The world's a bitch!'

'You make me sick! I love you, I think so bad!'

I'm so proud you brought these people in and I can't deny they are all so sweet and so strong, but I know you'll be a lot better in a hundred years, but I'm so proud you've brought these people in

Don't you know, I'm not alone, I know

how to stop yourself, how to stop myself

And when you see me, that's when I start to get mad, and when you've been

to the end and the world and now I'm on top of you, okay, then I start to think...
yeah, I'm not alone

The 'Babies are a bitch!'

'The world's a bitch!

The world's a bitch!'

'You make me sick!' I love you, I think so bad!'

I'm so proud you brought these people in and I can't deny they are all so
sweet and so strong, but I know you'll be a lot better in a hundred years, but I'm so
proud you've brought these people in

Don't you know, I'm not alone, I know

how to stop yourself, how to stop myself

And when you see me, that's when I start to get mad, and when you've been
to the end and the world and now I'm on top of you, okay, then I start to think...
yeah, I'm not alone

The 'Babies are a bitch!'

The world's a bitch!

The world's a bitch!

The world's a bitch!

'You make me sick!' I love you, I think so bad!'

I'm so proud you brought these people in and I can't deny they are all so
sweet and so strong, but I know you'll be a lot better in a hundred years, but I'm so
proud you've brought these people in

Don't you know, I'm not alone, I know

how to stop yourself, how to stop yourself

And when you see me, that's when I start to get mad, and when you've been
to the end and the world and now I'm on top of you, okay, then I start to think...
yeah, I'm not alone

The 'Babies are a bitch!'

The world's a bitch!

The world's a bitch!

The world's a bitch!

The world's a bitch!

The world's a bitch!

The world's a bitch!

The world's a bitch!

The world's a bitch!

The world's a bitch!

The world's a bitch!

The world's a bitch!

The world's a bitch!

I'm going to die in the sky in the morning,

I just never wanted to be around, I only just wanted to live in the sky

I had no money, I never had enough to buy clothes

I had no idea what I was doing here, I only just wanted to live

I had no money, I only just wanted to live in the sky,

My heart's in my ear, but I'm in the ground,

I can hear you all around here, but I can't hear it

I only just wanted to live in the sky

A world full of the same people

There's a reason that I got here

The world looks

c. One

Generated text: One in your life that I don't know"

I think we all know what it's like to be with people who you love

I know how hard you struggle, how hard you fight, how hard you fight

I know how hard it feels to be with people who you love

And I know that you feel it too
And when you're gone
You won't ever leave me
You lost it forever
When you're gone
You won't ever leave me
You won't ever leave me
I don't want nothing but you
Just the chance to feel free from everything
And a life without you

Love is too powerful, too far gone
Let's move on
To have a better life for everyone
To have a better life for everyone
Love is too powerful, too far gone
Let's move on To have a better life for everyone
Love is too powerful, too far gone
Love is too far gone to be forgotten
Love is too far gone to be forgotten

Love is too far gone to be forgotten
Love is too far gone

Love is too far gone to be forgotten
Love is too far gone

Love is too far gone to be forgotten
Love is too far gone
Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone to be forgotten

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone to be forgotten

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone to be forgotten

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone to be forgotten

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

Love is too far gone

d. When

Generated text: When the moon is rising, it will be wonderful when its own

will

With the clouds falling in a storm

You'll find no sign of the sun rising again

It can only fall in the west

To a place where it's easy to understand

Oh yes, yes, yes, yes, yes

Now you're home again, and you know it's only here

Oh, yes, yes, yes, yes, yes

It's almost time to do something that you can't do

Now what are you going to do?

And how will you do it?

I would like to see you again, now that I know why you

You're so good

Don't ever think you'll have to say

But I still like it

You're so nice and you don't seem to hate me

I would like to see you again, now that I know why you

You're so nice and you don't seem to hate me

Now you're home again, and you know it's only here

Oh, yes, yes, yes, yes, yes

Now you're home again, and you're so nice and you don't seem to hate me

Now you're home again, and you don't seem to hate me

And I still like it

I know now how we are going to go through
This way we'll see this, this way we'll live this way

Well I'm here to stay
There was a good friend
that was always there
His name was Mandy
And he'd said that I looked pretty nice
'Cause I think my eyes would just look in the mirror
And when I was doing the last time I met him
I couldn't help but smile as I looked at him
He seemed like a very, very good friend to me
And I was always looking to learn from him. (Mandy) Yeah, and I was
always hoping I could find someone close to me
And my heart just started to hurt and it only got worse
I never could imagine being alive again
But he taught me something good and something special
And it's been amazing to find his love and to know he loves me as well
And I wish that every day that someone would show me love was a bright
day and a lot of life would come to her and me

I am truly thankful for all he has to give to me
He's been a blessing to me
And it will never be the same after I am gone

Well it's been just a long time since my last goodbye
And while the rain continues to wash off my soul
I don't wanna leave
Not that I want
And I would rather be gone

When I woke up this morning
I saw an empty room, empty of any clothes left on
And I knew it was the place I wanted to go to
And it was that night that I woke up
And when I awoke I had a cold sweat drip from my hands
And I could barely see through the window
My thoughts were running through the air
And I wanted to know if I could sleep and if I could cry
But the wind blew my mind away
And the sound of the door closing opened and my heart beat with joy
And the air was cold

And a chill hung in my chest as my heart could hear no more of my pain
And for once in my whole life I knew I was safe
My dream that I would never know me was falling apart
I had never known my dreams to be real
But I was sure that I would meet my end
There were times when I thought I knew my home
And there were times that I felt I knew where
But I wasn't sure if I knew my purpose

And I knew I had to go out
But I was too afraid to do it myself

And I was too afraid to be alone

And when we left the village and I heard the news of the

e. If

Generated text: If a child is lost in this world, I'll pay the ransom for him

For his love, his life

He will be redeemed

If you give me his heart

And I can turn away

I will love him when he calls

He's just a boy

Don't forget

That I am blessed

That I'm destined

In my way

To be a better man

And for my child

To be a better God

My love will never be forgotten

And I know that, when I see him

He'll be saved from despair

And I'll give all I can

That I'll pray

For him, for his life

If you give him heart

And I can turn away

I will love him when he calls

He's just a boy

Don't forget
That I am blessed
That I'm destined
In my way
To be a better man
And for my child
To be a better God

My love will never be forgotten
And I know that, when I see him, he'll be saved from despair
And I'll give all I can
That I'll pray
For him, for his life
If you give him heart
And I can turn away
I will love him when he calls

I've watched his heart rise
and it seemed the way it ever will

He will not be taken by surprise
He will be prepared for the danger of the battle
All his might

He will not be held hostage
And as the battle for control comes to the doorstep

His rage has grown so thick and clear
The old flame is in its blood and it will not be let go until its burning will
burn out

And the light of the war will guide us all onward
As well as the ancient and the dark
With each passing day a new life is born
The future he dreamed was lost
The past he said is in ruins
The time his hand will hold will be lost
And if he dies without a cause, everything will fall into place

When the dust has settled and the earth is free, the sun won't rise anymore
He'll be all alone again
His life will be all the rage and the hope it took for him
The wind is blowing
The skies are changing
The days that he thought would never come true
His voice will be ringing
The night's black and burning will be soon upon him
The moon is coming down
The sky will rise and the earth will soon be left alone
He will be all alone again
His life will be all the rage and the hope it took for him
The wind is blowing
The skies will rise and the earth will soon be left alone

When the dust has settled and the earth is free, the sun won't rise anymore
He'll be all alone again
His life will be all the rage and the hope it took for him
The wind is blowing
The skies will rise and the earth will soon be left alone
He will be all alone again
His life will be all the rage and the hope it took for him

The wind is blowing
The skies will rise and the earth will soon be left alone
He will be all alone again
His life will be all the rage and the hope it took for him
The wind is blowing
The skies will rise and the earth will soon be left alone
He will be all alone again
His life will be all the rage and the hope it took for him
The wind is blowing
The skies will rise and the earth will soon be left alone
He will be all alone again
His life will be all the rage and the hope it took for him
The wind is blowing
The skies will rise and the earth will soon be left alone
He will be all alone again
His life will be all the rage and the hope it took for him
The wind is blowing

Part 3

Here I use all the provided machine generated data and the human-authored data used in part 1 to construct the train, dev, and test data. I chose 100K human-authored data as the same in part 1, and all the other data are used completely. This is due to time constraints and space limit (which I have justified in part 1), as well as for the ease of reusing processed data in part 1 and the attempt to utilize as much data as possible. As fine-tuning is optional in this part, I did not tune hyperparameters on the classification model.

- a. The accuracy on train.txt for my model is 0.945
- b. The accuracy on dev.txt is 0.930
- c. The accuracy on test.txt is 0.930
- d. The accuracy on the 500 lyrics I have generated from Part 2 is 0.162. This indicates that the model seems to predict my machine-generated lyrics as human.

After scoring the model, to improve its ability to generate human-looking lyrics, I think the following changes could be made to the lyric generation part:

- Delete too many duplicating sentences clustering together
- Use longer prompts, for example, two initial words
- Filter out offensive words