




# Shakespeare text generation

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This project is all about novel text generation in the style of Shakespeare, using simple deep Recurrent Neural Network. The model is character level, taking and generating text character by character. The model is also stateless, each training example starts with a hidden state with null vector and the hidden state is not preserved across examples. The present architectures simply use GRU cells with dropout and recurrent dropout, with different architectures using different number of GRU cells and different layer count.

The model trains by taking a set of contiguous characters (here 100) and learns to predict the next character. With sufficient training the accuracy of prediction jumped to above 88 percent. This means that the model learns quite well till roughly 100 steps, which is about the length GRU cells are about to learn.

During text generation, the model takes as context any number of characters and the number of characters to generate after which it outputs character by character. The model is expected to be highly coherent till 100 steps, which is observed. However it can even be used to generate reasonable content till 1000 characters.

GitHub link : [ML-Projects/shakespeare text generation at main · SounakMandal/ML-Projects \(github.com\)](https://github.com/SounakMandal/ML-Projects/tree/main/shakespeare_text_generation)

A glimpse of some of the results. The results are also available under the project directory named results.

```
File Edit Selection View Go Run Terminal Help
sample_2.txt X
shakespeare text generation > results > sample_2.txt
1 Context : The
2 Characters generated : 1000
3
4 Generated text :
5
6 They grew to are at a prophed,
7 and sweet swear that brightness doth not grace the day?
8 whence hast thou this becoming of things ill,
9 that in the very refuse of thy deceived,
10 there gor is straight in her heart did mercy come,
11 chiding that tongue that ever sweet,
12 was used in giving gentle doom:
13 and taught it thus anew to greet:
14 'i hate' she altered with an end,
15 that followed it as gentle day,
16 doth follow night who like a fiend
17 from heaven to hell is flown away.
18 'i hate', from hate away she threw,
19 and saved my life saying 'not you'.
20
21 poor soul the centre of my sinful earth,
22 my sinful earth these rebel powers array,
23 why dost thou pine within and suffer dearth
24 painting thy outward walls so costly gay?
25 why so large cost having so short a lease,
26 dost thou upon thy fading mansion spend?
27 shall worms inheritors of this excess
28 eat up thy charge? is this thy body's end?
29 then soul live thou upon thy servant's loss,
30 and let that pine to aggravate thy store;
31 buy terms divine in selling hours of dross;
```

```
File Edit Selection View Go Run Terminal Help
sample_7.txt X
shakespeare text generation > results > sample_7.txt
1 Context : W
2 Characters generated : 1000
3
4 Generated text :
5
6 Where is my judgment fled,
7 that censures falsely what they see aright?
8 if that be fair whereon my false eyes dote,
9 what means the world to say it is not so?
10 if it be not, then love doth well denote,
11 love's eye is not so true as all men's: no,
12 how can it? o how can love's eye be true,
13 that is so vexed with watching and with tears?
14 no marvel then though i mistake my view,
15 the sun it self sees not, till heaven clears.
16 o cunning love, with tears thou keep'st me bling,
17 lest eyes well-seeing thy foul faults should find.
18
19 canst thou o cruel, say i love thee not,
20 when i against my self with thee partake?
21 do i not think on thee when i forgot
22 am of my self, all-tyrant, for thy sake?
23 who hateth thee that i do call my friend,
24 on whom frown'st thou that i do fawn upon,
25 nay if thou lour'st on me do i not spend
26 revenge upon my self with present moan?
27 what merit do i in my self respect,
28 that is so proud thy service to despise,
29 when all my best doth worship thy defect,
30 commanded by the motion of thine
```

```
File Edit Selection View Go Run Terminal Help
sample_10.txt X
shakespeare text generation > results > sample_10.txt
1 Context : Then
2 Characters generated : 400
3
4 Generated text :
5
6 Then believe her though i know she lies,
7 that she might think me some untutored youth,
8 unlearned in the world's false subtleties.
9 thus vainly thinking that she thinks me young,
10 although she knows my days are past the best,
11 simply i credit her false-speaking tongue,
12 on both sides thus is simple truth suppressed:
13 but wherefore says she not she is unjust?
14 and wherefore say not i that i am old?
15 o love's
```

Thank You