

word generation: generate 50 words

Model 1 : one RNN Layer

RNN + Dense

Generated: game played primarily personal computer type flexible hardware system also commonly used light indicator combination imaging purpose computer game also used descriptor type game tend reduce eliminate dice randomizing element game played primarily personal computer type flexible hardware system also commonly used light indicator combination imaging purpose computer game also used

Model 2 : 3 RNN layers with filters size (64 , 32 , 32)

RNN + RNN + RNN + Dense

Generated: game like internet united state japan game often brightly painted logo aspect mehen enjoy claimed drawn consistency fired save feature part video game also used india motivation much across form several called medium engine engine reinforcement chinese mobile emphasizing support role since character mean world film early played platform like odyssey

Model 3

GRU + Dense

Generated: game intermediate point level offer save point player create saved game storage medium restart game lose life need stop game restart later time also form passage written reentered title screen give player chance review option number player larp usually larger tabletop roleplaying game also used therapy setting help individual develop behavioral

Model 4

RNN + GRU + Dense

Generated: game platform considered programmable mean read play multiple game distributed different type medium format including cdrom flash memory card furthermore digital distribution including newer mobile gaming marker readilyavailable lowcost development tool platform game played feature color depth refresh rate frame rate screen resolution combination limitation game platform considered programmable mean read

Model 5

LSTM + Dense

Generated: game developed game platform support portability still create specialized feature direct control game distribution platform method continue used console manufacturer produce console hardware handheld game console game especially game strong rochester york contains largest collection electronic game strong rochester york contains largest collection electronic game strong rochester york contains largest collection

Character generation : generate 5 char

Model 1 : one RNN Layer

RNN + Dense

Generated1: ved critical decision direction game producti

Generated2: und license dungeon dragon pathfinder market

Generated3: strachey draught game nimrod computer freque

Model 2 : 3 RNN Layers with filters size (256 , 128 , 64)

RNN + RNN + Dense

Generated1: troller like gamepads joystick console action

Generated2: t industry grown building idea others exists

Generated3: name draught player capturing opposing parti

Model 3

GRU + Dense

Generated1: e dungeon dragon unlicensed version developme

Generated2: ement computer gaming inperson tabletop porti

Generated3: ucation would enjoy significant benefit term

Model 4

RNN + GRU + Dense

Generated1: endo switch online offering backward computer

Generated2: vide value education across several component

Generated3: sed sale performance smaller boutique publish

Model 5

LSTM + Dense

Generated1: idea addition game facilitator rule interact

Generated2: pport claim video game beneficial brain story

Generated3: indicator combination imaging purpose control

Conclusion:

1. Word Generation:

- Model 1 (RNN + Dense): 83.7% - This model produces relevant text and good prediction.
- Model 2 (RNN + RNN + RNN + Dense): 58.9% - worst model and it's generated words not relevant and doesn't contain any meaning.
- Model 3 (GRU + Dense): 83.8%
- Model 4 (RNN + GRU + Dense): 83.6%
- Model 5 (LSTM + Dense): 82.5%

2. Character Generation:

** Note: it predict more than one character

- Model 1 (RNN + Dense): 81.26%
- Model 2 (RNN + RNN + RNN + Dense): 79.9% - it's result may be similar for using one layer of RNN
- Model 3 (GRU + Dense): 99.2%
- Model 4 (RNN + GRU + Dense): 98.6%
- Model 5 (LSTM + Dense): 98.9%

generation of words or characters depends on the number of words I will generate in the following generation. The fewer words or characters I generate, the better the result will be.

When comparing the word generation models, Model 1 (RNN + Dense) achieved the highest accuracy of 83.7%. but for Model 2 (RNN + RNN + RNN + Dense) it give worst accuracy .so we note that when we add more layers we get lowest accuracy.

Regarding character generation, both Model 1 (RNN + Dense) and Model 2 (RNN + RNN + RNN + Dense) The accuracies of both models are quite close .

In summary, Model 1 (RNN + Dense) are best model for word and character generation