Book Publishing

Text Generation with Recurrent Neural Networks

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I. Model Training

To gather data to train our model, we downloaded text files for each corresponding author, cleaned the data, and then compiled the files into a single text file for each author. We trained our model with each separate dataset and saved the trained models as h5 files. Two of the notable authors we created trained models for include Jane Austen as well as J. K. Rowling. Our models were trained using CUDA acceleration and an NVIDIA GeForce RTX 3080 GPU.

II. Architecture

For the architecture of our model, we opted to use a single GRU layer and a single dense layer. When we experimented with multiple GRU and Dense layers we encountered lower loss, but the text that was generated was ultimately less coherent than the text generated by our original model with one GRU and one dense layer.

II. Model Summary

Here are some excerpts of text that were generated by our models:

"There's no use of my Mother now, straight woman!"   
said Hagrid, soulding a nervous glow up from below which he   
remembered Ron and Hermione, though Harry had here   
all three of them notice, because the sofa think in fear   
mounted his mind — a woman bounced, as Mrs. Weasley   
burst into the darkness like a silver various men in   
green light. "Cowardly — since I got back, I think — "

"I know, Draco, isn't it second that you like, do you   
like to say to his party?" Mr. Weasley was soaking away. "Dobby   
will fight want to help me."

Draco Malfoy stopped dead on his feet, but she climbed   
back down the letter of the trees trying hard to keep   
Malfoy left away from him, arms trembling, his eyes flickering   
gentler.

III. Conclusion

This model produces mostly coherent text that may be used as new ideas for content from a series of authors or the same author. With this model your business will be able to thrive on content that very accurately meets the style and wording of any authors you decide to develop content from. With legal rights to do so, you may develop any new book or written work as you please.

IV. Python Notebooks

Below are Github Gist links to the notebooks we used during this case study:

Jordan: <https://gist.github.com/JordanCarlson7/12a2f9233a25cdf85820c97f07385325>

Kyle: <https://gist.github.com/mueller14003/6d9672d7f76b1d9ac0f49f45599ef157>

Cody: <https://gist.github.com/codeholt/4949c4adfc875fb353176c6347760f90>