Creative Writing 101

Machines Expressing their thoughts

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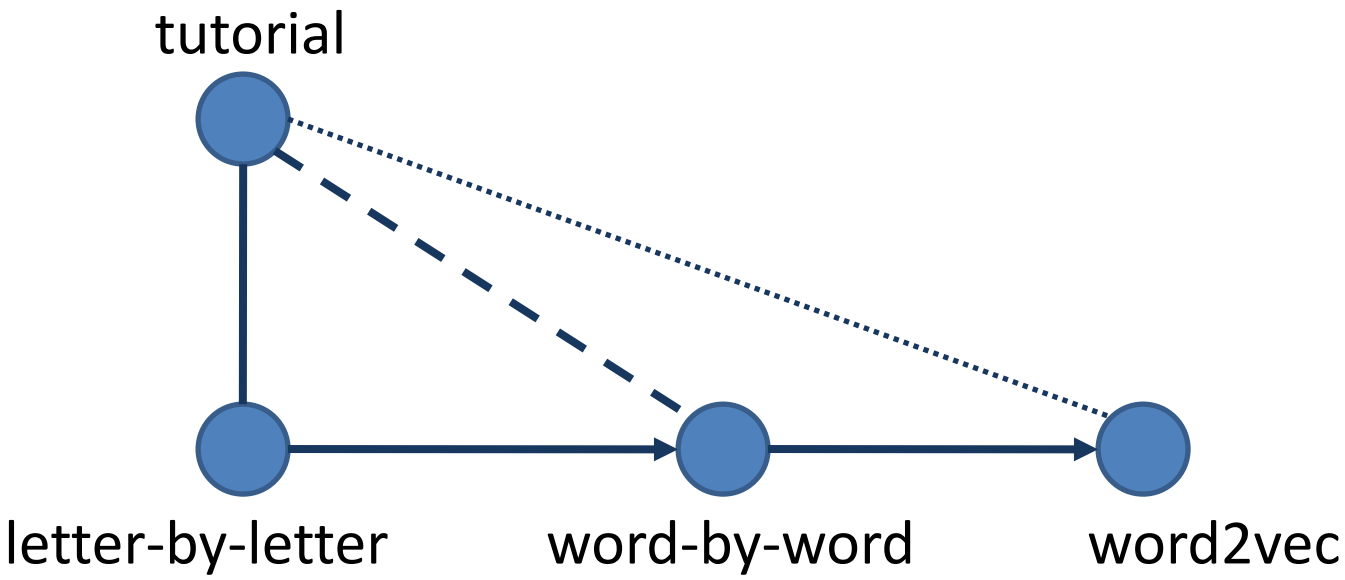
Intro

- Machine Learning – but how do they actually think?
- Creative text is reflecting the thinking patterns

- Personal main goal: Learning to implement Deep Learning

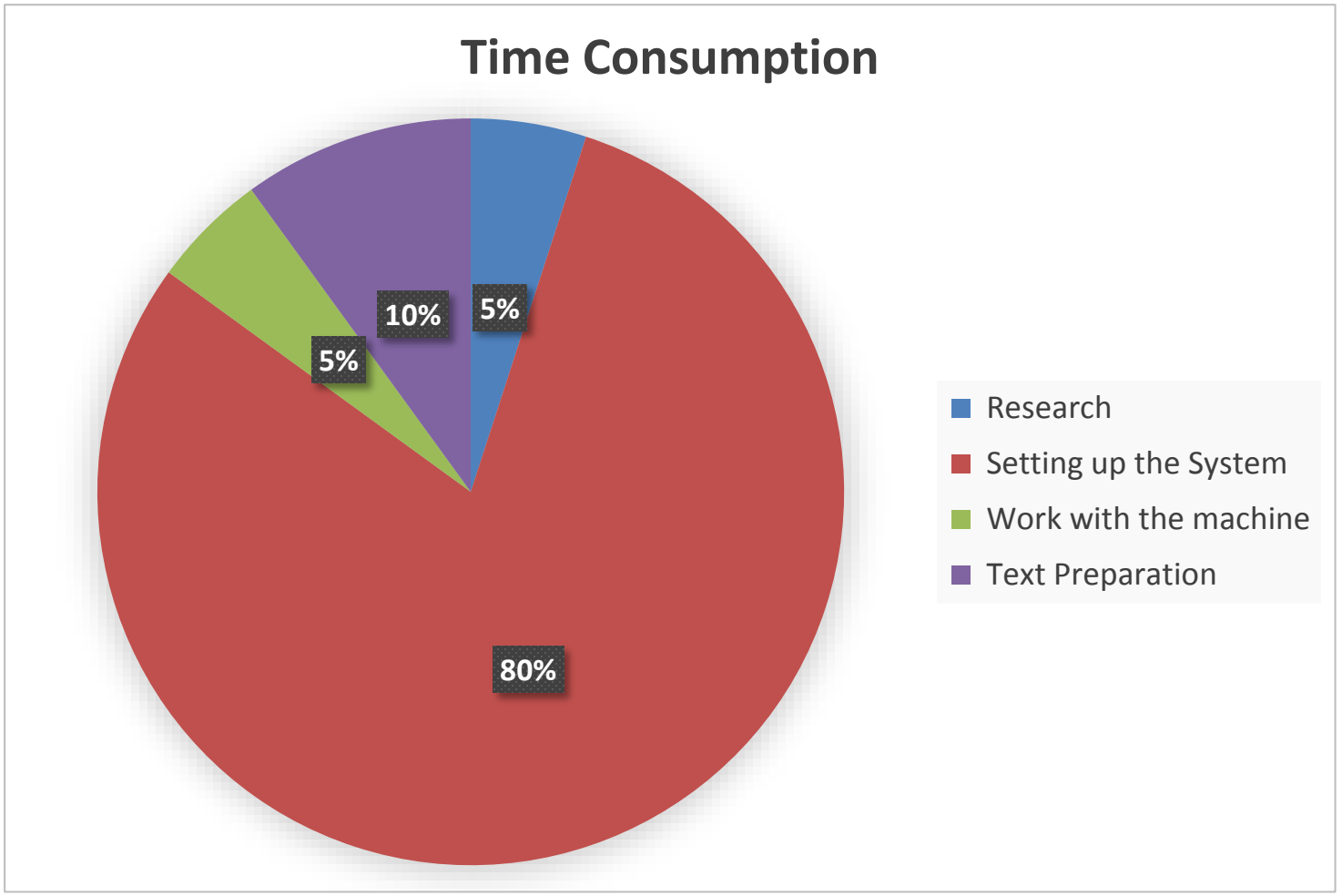
Plan



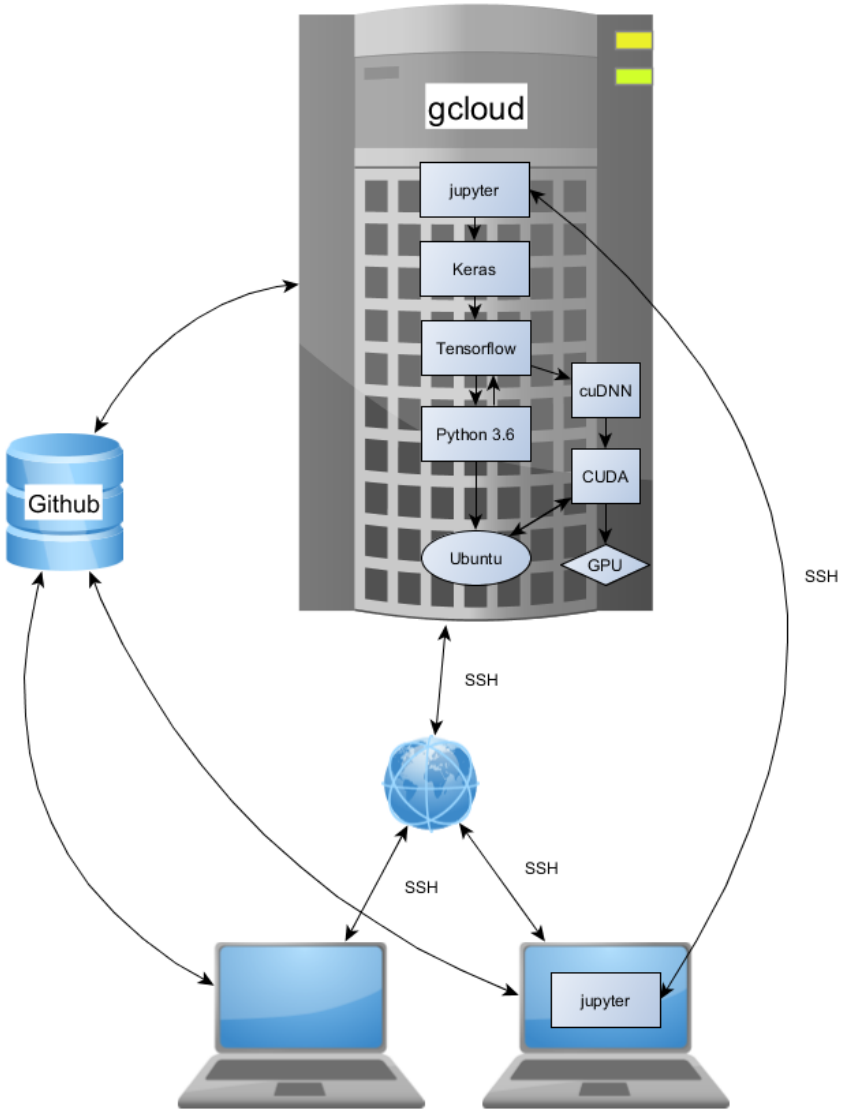
Sources

- L. Tolstoy: War and Peace – multi language
- Jeff Inlo: Delver Magic
- J.R.R. Tolkien: Lord of the Rings – big text body
- Shakespeare – difficult theater style

From Dream to Reality



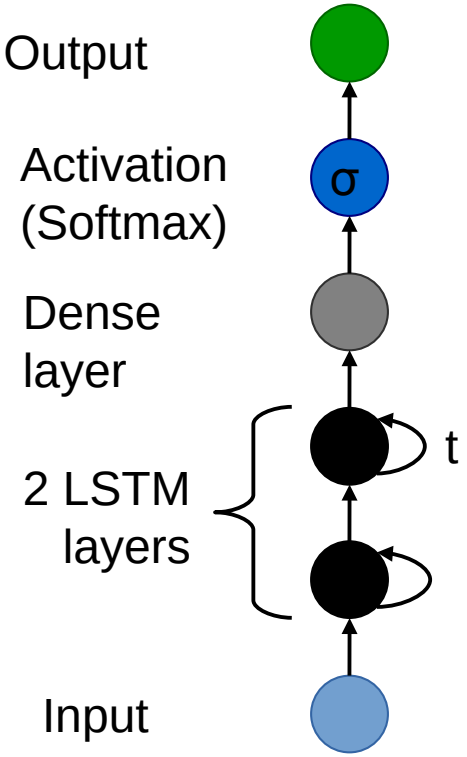
System Setup



Model

- Standards for Text Generation: RNN, LSTM, GRU
- RNN has too short memory (vanishing Gradiant)
- Beginning with LSTM (tutorial)
- Next step: GRU

Model : Deep LSTM



- Dense Layer: Time Distributed
- LSTM: capacity=500

Results: letters

Results: words

Conclusion

- We could clearly see how the machines learn and understand the structure of language
- Encoding words as simple integers seems to stripe them from inner context
- Does maybe mother, father, brother have inner structure the machine understands?
- Are children learning the same way?

Prospect/Perspective

- Using word2vec to keep word contexts
- Compare LSTM w/ GRU

Sources

- https://chunml.github.io/ChunML.github.io/project/Creating-Text-Generator-Using-Recurrent-Neural-Network : tutorial
- http://papers.nips.cc/paper/5166-training-and-analysing-deep-recurrent-neural-networks.pdf : DLSTM proposition(3layer)
- https://diplernin.github.io/ : Smart Text – DLSL group last year