# Better NLP: working towards it!

9th March 2019, AI Labs, DS for IoT meetup

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http://bit.ly/better-nlp-launch

#### **About me**

- Freelance Software / Data Engineer
- Interests: code quality, testing, performance, AI/ML, NN, etc...
- Strengthening teams and helping them <u>accelerate</u>
- Involved with various developer communities
- Attends and helps co-organise various events and conference

#### **Disclaimer**

- Sharing my ideas, but YMMV
- Possibly missed one or more things or made mistakes, I ask for forgiveness
- Not clear for some, my apologies
- Lots of info and resources
- Lots of takeaway, please go home and do some more research
- Please contribute and share, please tweet!

## Thank you

- DS for IoT meetup
- Sponsor(s) for the event
- Guests and attendees
- Anyone else not named...

#### Agenda

- Background
- Inspiration
- NLP...
- Artifact of the learning
- Demo (show code)
- Resources
- Thanks
- Contact & feedback, Q & A

## **Background**

- Al Labs initiative
- Learning DL from Machine Learning is Fun!

## **Background**

- What Machine Learning is Fun!
  - Ebook (PDF)
  - VM image
  - Project source code (python)
  - Extra Advance Python tutorial (mini PDF booklet)

## **Background**

- What topics did Machine Learning is Fun! cover?
  - Explanations on Machine Learning
  - Explanations on Neural Networks
    - CNN, RNN, masked R-CNN, etc..
  - Natural Language Processing (NLP) & Generating text
  - Image Processing
  - Deep Learning
  - GANs, Chat Bots, Speech Recognition and other fun topics
  - See book and author's medium page

#### **Inspiration**

- Inspired by the NLP chapters of Machine Learning is Fun
- Skipped all other bits as everyone knows about them and it's pretty common topics
- Found Generating text using Recurrent Model interesting but haven't included atm, will look into it later

#### NLP from Machine Learning is Fun!

- Examples on SpaCy, Texacy and Rasa NLU,
  FastText
- Mention of other NLP libraries/frameworks
  - Pytext
  - Vowpal Wabbit
- NLP libraries/frameworks out there
  - StanfordNLP
  - Vowpal Wabbit

#### **Artifact of the learning!**

- Progra/library wrapping NLP libraries (Python)
- Uses Spacy and Texacy
- Measure model loading time
- Make it easier to learn and understand NLP & tech stack
- Implementation examples
  - Extract entities
  - Extract nouns (Proper, Common, etc..)
  - Gather facts from text
  - Obfuscate text

## **Artifact of the learning!**

- Improve python skills
- Learn more on
  - Al
  - ML
  - DLP
  - NLP
- Improve the library further: wrap more such useful programs

#### **Demo time!**

Show and tell!

(if time permits)

## Jupyter notebooks

Coming soon!

Open to Pull Request from you

#### Vision and future!

What can you see in the crystal ball? Does the idea resonate with you?

#### **Summary**

- Learning from Machine Learning is Fun ebook
- Toy implementation for NLP
- Lots more things to add
- Share and contribute
  - create your first Pull Request on NLP, on Al, on ML

#### Resources

- Source code of Better NLP
- Awesome AI, ML, DL resources
- Machine Learning is Fun site | Medium site

#### Thank you, again...

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#### **Feedback**

Please share your feedback,

## @theNeomatrix369

to be applied to the slides for everyone's benefit