[F23] PracticalMLandDL

Project Intermediate Report #2

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Topic: ~~**Real or Not? NLP with Disaster Tweets**~~
Generating Disaster Tweets using GANs

GitHub: https://github.com/rmakarovv/pmldl_project
Collab:
Training GPT-2 for Disaster Tweets generation
Training BERT for Disaster Tweets recognition

Intermediate progress:
- We revised GAN techniques
- We fine-tuned a Gpt-2 for generating disaster tweets
- We fine-tuned Bert for classification of disaster tweets
- We run Bert for classifying disaster tweets generated by Gpt-2

Preliminary results:
- Our fine-tuned Bert performed 82.5% accuracy on test data
- Fine-tuned Gpt-2 generated disaster tweets, some of which are almost like real ones. Sometimes he generates good tweets but not about disasters.
- Fine-tuned Gpt-2 managed to blame Bert on some of the tweets, but most of the generated texts still do not have much sense

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Tasks distribution:
So far, Adel worked on fine-tuning Gpt-2. Roman fine-tuned Bert.

Why GANs

GANs can generate more diverse and creative texts, as they do not rely on a predefined vocabulary or a fixed distribution of words.Aug

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Plans for next weeks

We plan to use a fine-tuned BERT as a discriminator and fine-tune/train generator model by ourselves. During next week we will try to improve the performance of both - BERT and GPT. Next, we will try to use them in a form of GAN, where BERT is a discriminator model and GPT is a generator model

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Examples of generated tweets by our fine-tuned GPT-2:

The Best Moments After Hiroshima: The Great Con Game
It all started when a young Japanese man named Kenji Higashikawa escaped captivity at Amatsu... via YouTube
Photos: The Sex Workers Forced To Be Hunted The World Over **[BERT: Real Tweet]**
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Obama Declares Disaster for Typhoon-Devastated Saipan **[BERT: Real Tweet]**
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MTV crews on motorcycles hooting and a truck in a tree fall off a cliff..??
So you feel guilty when you don't get by because you didn't give your all? **[BERT: Fake Tweet]**
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A dog attack dog attack that injured a school bus last month has been caught on tape. FOXNewYork
Accident fatality rate ratio ratio ratio bicyclist fatalities percent 'He is so fast.' I asked what he wa **[BERT: Fake Tweet]**