

A blue parallelogram and a light green parallelogram are positioned on the left side of the slide, overlapping each other and the dark blue background.

Game Jam Theme Generator

Clément Clerc - Ronan Dhersignerie



Les outils

- GPT-2 simplifié
 - IA de génération de langage “naturel”
- TensorFlow 1.5.0
 - outil open source d'apprentissage automatique
- Python 3.6.8
 - langage de programmation orienté objet
- Inspiré d'une implémentation de [Robin Grosset](#)
 - générateur de poèmes

Les datas

- La récupération de bon set de data est complexe

Le code

D'autres modèles existent :

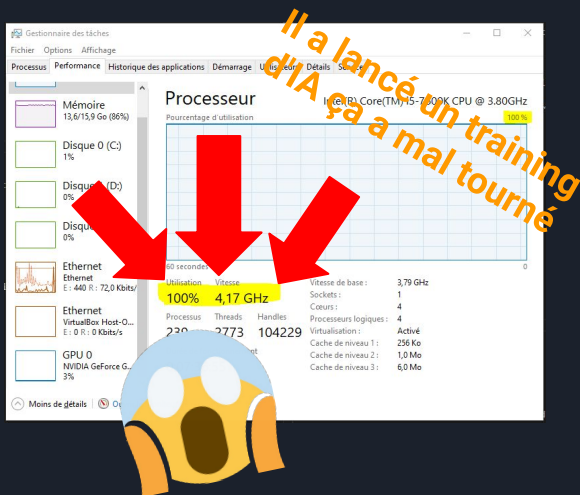
- 124M
- 335M
- 774M
- 1558M

```
10 import gpt_2_simple as gpt2
11 import os
12 import requests
13 import tensorflow as tf
14 from tensorflow.core.protobuf import rewriter_config_pb2
15 from tensorflow.python.client import device_lib
16
17 model_name = "774M"
18 if not os.path.isdir(os.path.join("models", model_name)):
19     print(f"Downloading {model_name} model...")
20     gpt2.download_gpt2(model_name=model_name) # model is saved into current directory under /models/774M/
21
22
23 file_name = "jam-theme.txt"
24
25 config = tf.compat.v1.ConfigProto()
26 config.gpu_options.allow_growth = True
27 config.gpu_options.per_process_gpu_memory_fraction=0.875
28 config.graph_options.rewrite_options.layout_optimizer = rewriter_config_pb2.RewriterConfig.OFF
29 sess = tf.compat.v1.Session(config=config)
30
31 gpt2.finetune(sess,
32               file_name,
33               model_name=model_name,
34               steps=1000) # steps is max number of training steps
35
36 gpt2.generate(sess)
37
```

	A
2007	plant/tech hybrids
2008	Tokens
2009	Mayas
2010	energy
2011	exchanges
2012	Skycrane
2013	Remote Control
2014	Lava
2015	odors
2016	Beating the Clock
2017	doubt
2018	Glitches
2019	Renewed
2020	gear
2021	Fractals
2022	vandalism
2023	knight's quest
2024	Miniscule
2025	It's a secret
2026	Tether
2027	1920's
2028	Roundup
2029	Steam powered
2030	Little Vs. Big
2031	Relaxation
2032	Portals
2033	Adhesive

Execution time

L'apprentissage d'une AI est un processus
EXTRÊMEMENT long et coûteux en ressources



```
Please use tensorflow.python.ops.op_selector.get_backward_walk_ops.  
Loading checkpoint models\774M\model.ckpt  
Loading dataset...
```

```
100%|████████████████████████████████████████████████████████████████████████████████|  
dataset has 9269 tokens  
Training...  
[1 | 73.85] loss=3.65 avg=3.65  
[2 | 132.16] loss=5.39 avg=4.52  
[3 | 188.58] loss=5.61 avg=4.89  
[4 | 253.16] loss=4.44 avg=4.78  
[5 | 321.08] loss=4.31 avg=4.68  
[6 | 389.03] loss=3.72 avg=4.52  
[7 | 456.14] loss=3.78 avg=4.41  
[8 | 526.74] loss=4.41 avg=4.41  
[9 | 589.42] loss=3.37 avg=4.29  
[10 | 657.90] loss=3.08 avg=4.16  
[11 | 727.08] loss=3.55 avg=4.10  
[12 | 791.26] loss=3.28 avg=4.03  
[13 | 856.69] loss=3.64 avg=4.00  
[14 | 925.07] loss=4.31 avg=4.02  
[15 | 991.42] loss=3.75 avg=4.00  
[16 | 1076.77] loss=3.23 avg=3.95  
[17 | 1158.73] loss=2.74 avg=3.87  
[18 | 1229.60] loss=3.08 avg=3.83  
[19 | 1294.98] loss=3.39 avg=3.80
```



Résultats

10 steps

~ 15 minutes de générations

Takin' The Sunken Boat

The Fall

The Fall

Isolation

In Yarn

The Fall

The Fall

The Fall

In Symphonic Bloom

In Yarn

The Fall

In Symphonic Bloom

In Yarn

The Fall

In the Pavement

In Yarn

In the Pavement

The Fall

In the Pause

The Fall

The Fall

In the experience

In Yarn

The Fall

Speculum

The Fall

The Fall

The early days



Références

- Robin Grosset
 - <https://github.com/robin7g/burnsbot>
- GPT-2 Simple
 - <https://github.com/minimaxir/gpt-2-simple>