# GPT-3

Generative Pre-training Transformer 3

# References


- https://arxiv.org/pdf/2005.14165.pdf

# What is GPT

- GPT uses a generative model of language (where two neural networks perfect each other by competition) and is able to acquire knowledge of the world and process long-range dependencies by pre-training on diverse sets of written material with long stretches of contiguous text.

# GPT Evolution

- GPT1 – 110 million parameters
- GPT2 - 1.5 billion parameters
- GPT3 utilizes 175 billion parameters

# Training Set

- CommonCrawl builds and maintains an open repository of web crawl data that can be accessed and analyzed by anyone. The Common Crawl corpus contains petabytes of data collected since 2008.
- The English Wikipedia, spans 6 million articles.

| Dataset | Quantity (tokens) | Weight in training mix | Epochs elapsed when training for 300B tokens |
|---|---|---|---|
| Common Crawl (filtered) | 410 billion | 60% | 0.44 |
| WebText2 | 19 billion | 22% | 2.9 |
| Books1 | 12 billion | 8% | 1.9 |
| Books2 | 55 billion | 8% | 0.43 |
| Wikipedia | 3 billion | 3% | 3.4 |

# GPT Domains

- GPT-3 achieves strong performance on many NLP datasets.
  - Translation
  - Q&A
  - Filling in missing text
- Tasks that require on-the-fly reasoning or domain adaptation
  - Unscrambling words
  - Using a novel word in a sentence
  - Performing 3-digit arithmetic.

# How to Use GPT

- Given any text prompt, the GPT-3 will return a text completion, attempting to match the pattern you gave it.
- You can “program” it by showing it just a few examples of what you’d like it to do, and it will deliver a complete article or story.

# How Good?

- GPT-3 can generate samples of news articles which human evaluators have difficulty distinguishing from articles written by humans.

# Medical Question

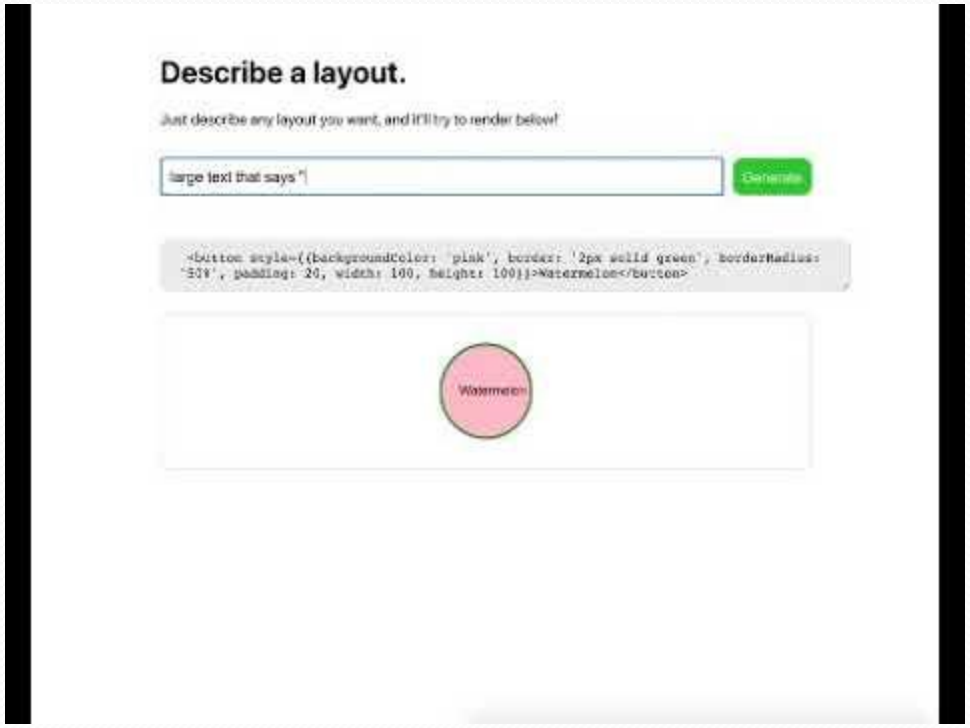
Question: A 10 year old boy presents with recurrent episodes of dyspnoea, cough and wheeze triggered by cold air and allergens. After performing tests he is diagnosed with an obstructive disease and given medication. Which receptor is the medication most likely to work on:

A) muscarinic receptor
B) G-protein coupled receptor
C) Era
D) Erb
E) a-1 receptor

Correct answer is **B**

**Explanation: The patient is suffering from asthma, a disease of the airways. The drugs used to treat asthma are bronchodilators. The bronchodilators act on the beta-2 receptors. The beta-2 receptors are G-protein coupled receptors**

# Coding




https://www.youtube.com/watch?v=frDG-dKOnsw

# Keras Model Generation

- https://twitter.com/mattshumer_/status/1287125015528341506

# Generate Email Response

- https://twitter.com/OthersideAI/status/1285776335638614017