Hilanco-GPTX

a family member of GPT-NeoX

Autoregressive language model with 6.7B parameters

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Download and contact

Download

- Here you can find downloadable checkpoints of this model: HILANCO

License

- License: as other GPT-NEOX models

Contact

- Contact: Adam Feldmann Ph.D LinkedIn

Summary

- GPT architecture and parameters
- Training and inference
- Examples

Background

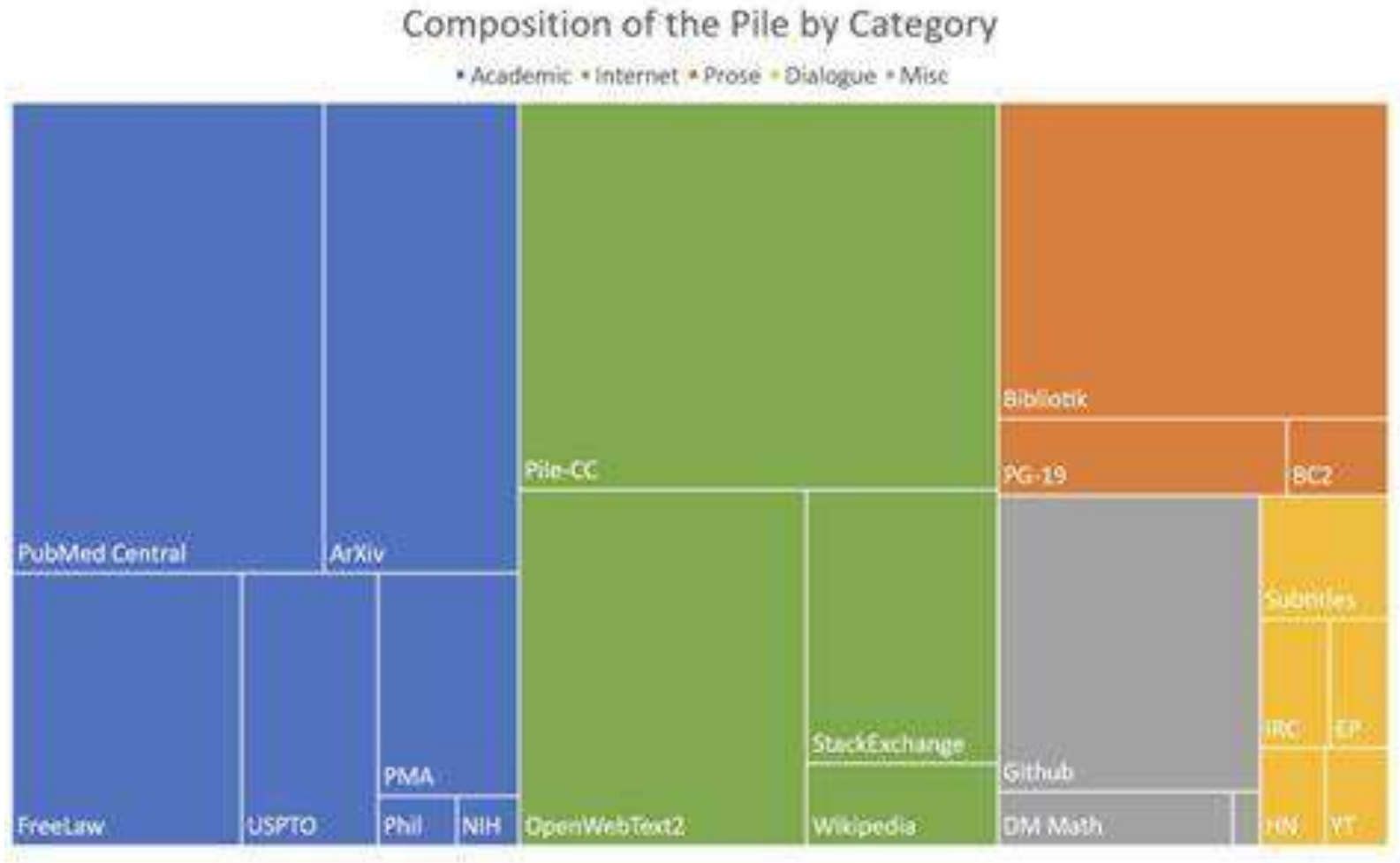
Dataset: The Pile (EleutherAI)

Infra: One DGX-A100 compute node with 8 x A100 GPUs (80GB VRAM)

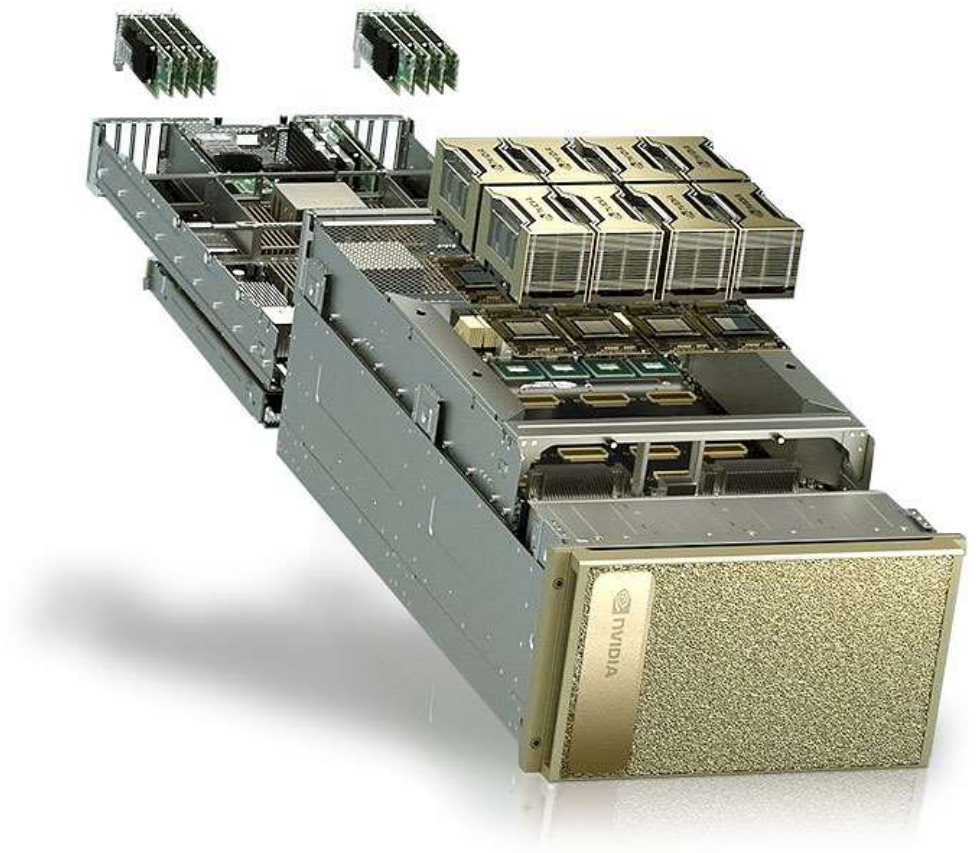
Training time: ~ 12000 GPU hours

Model: GPT-NeoX, Megatron-LM based model using DeeperSpeed (modified DeepSpeed) and PyTorch

Dataset: The Pile (EleutherAI)



Infra: One DGX-A100 compute node with 8 x A100 GPUs (80GB VRAM/GPU)



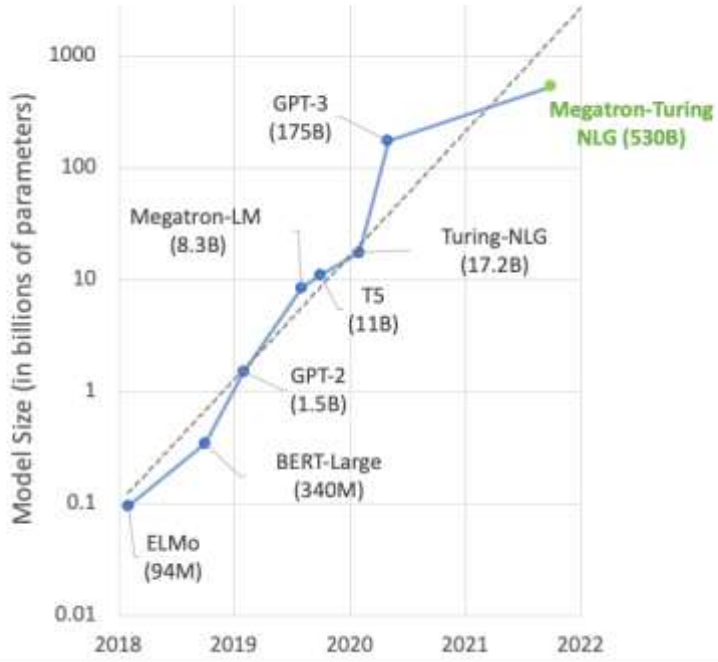
Research Institute For Linguistics

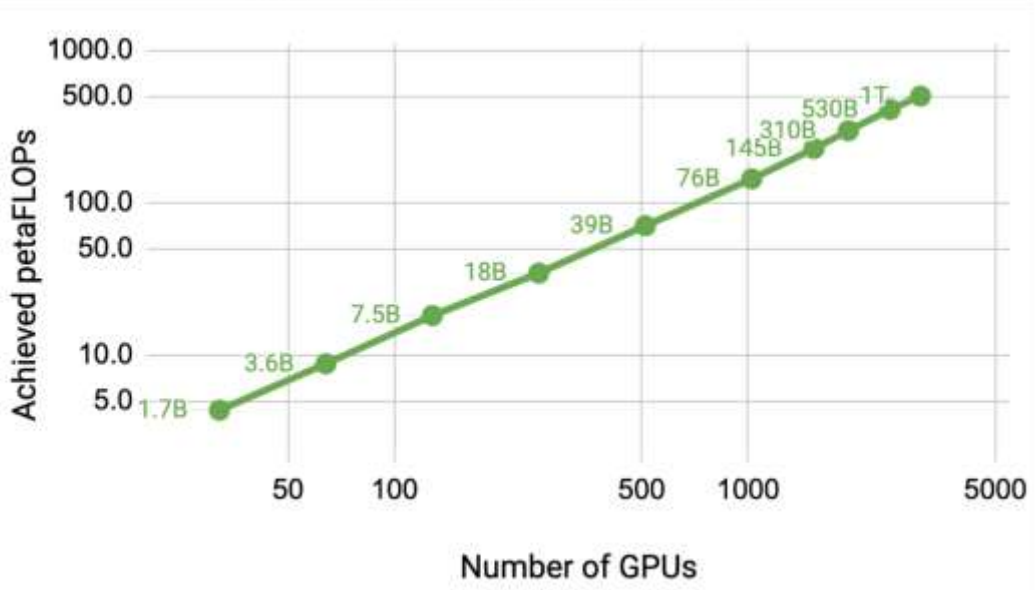
Infra: One DGX-A100 compute node with 8 x A100 GPUs (80GB VRAM/GPU)

GPUs	**8x NVIDIA A100**
GPU Memory	320 GB total
Peak performance	5 petaFLOPS AI | 10 petaOPS INT8
NVSwitches	6
System Power Usage	**6.5kW max**
CPU	**Dual AMD Rome 7742** 128 cores total, 2.25 GHz(base), 3.4GHz (max boost)
System Memory	**1TB**
Networking	**8x Single-Port Mellanox ConnectX-6** 200Gb/s HDR Infiniband (**Compute Network**) 1x (or **2x***) **Dual-Port Mellanox ConnectX-6** 200GB/s HDR Infiniband (**Storage Network** also used for Eth*)
Storage	OS: 2x 1.92TB M.2 NVME drives Internal Storage: 15TB (4x 3.84TB) U.2 NVME drives
Software	Ubuntu Linux OS (**5.3+ kernel**)
System Weight	271 lbs (123 kgs)
Packaged System Weight	315 lbs (143 kgs)
Height	**6U**
Operating temp range	**5°C to 30°C** (41°F to 86°F)

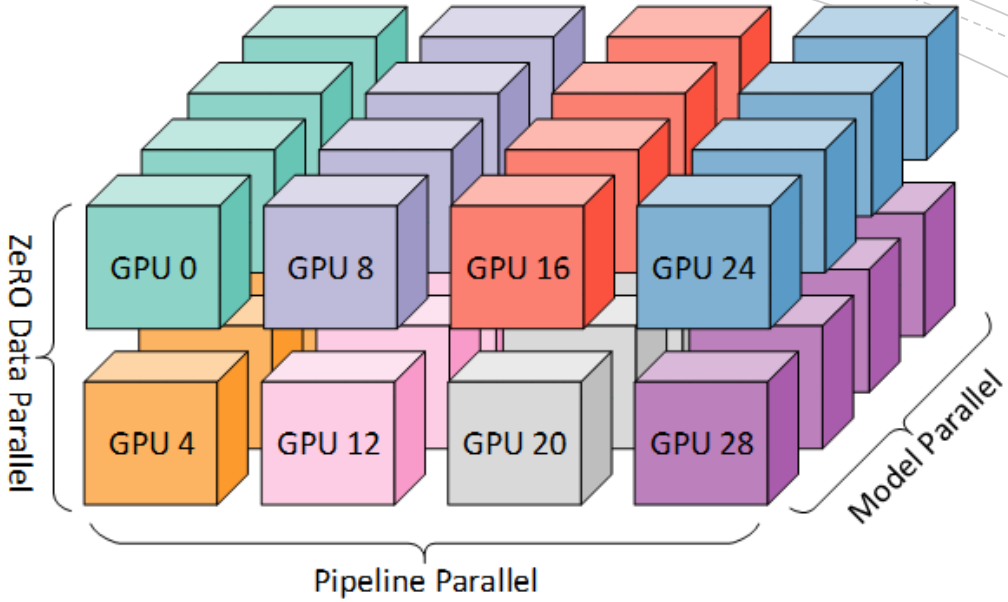
* Optional upgrades

Model: GPT-NeoX, Megatron-LM-based model using DeeperSpeed (modified DeepSpeed) and PyTorch

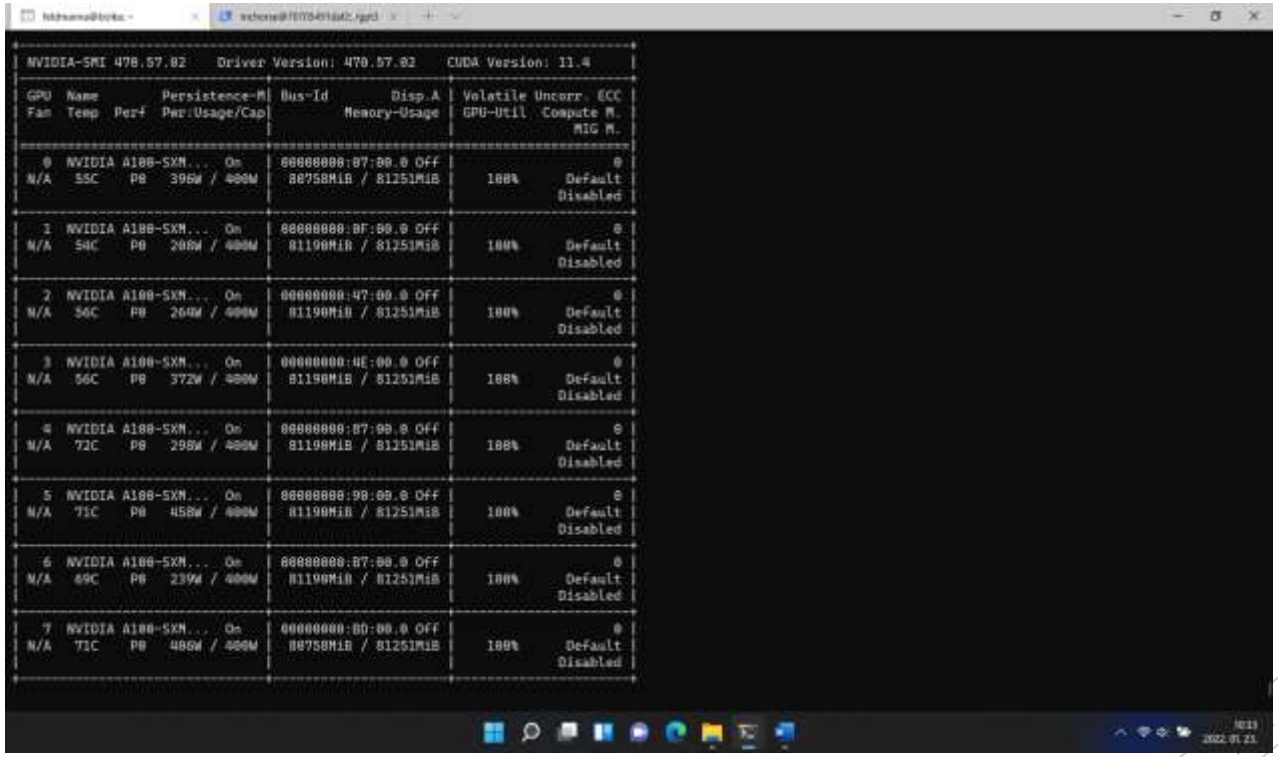




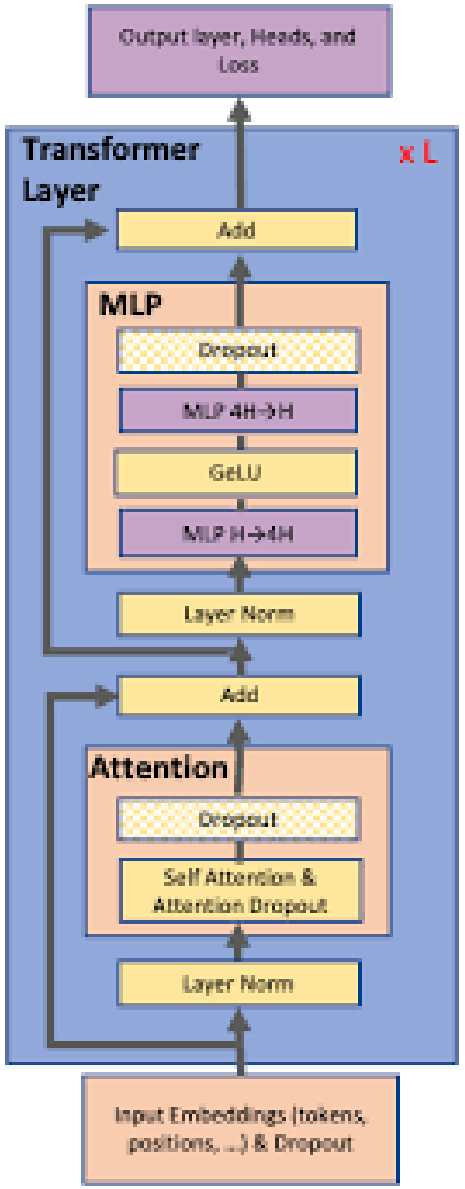
DeepSpeed



Model: GPT-NeoX, Megatron-LM-based model using DeeperSpeed (modified DeepSpeed) and PyTorch



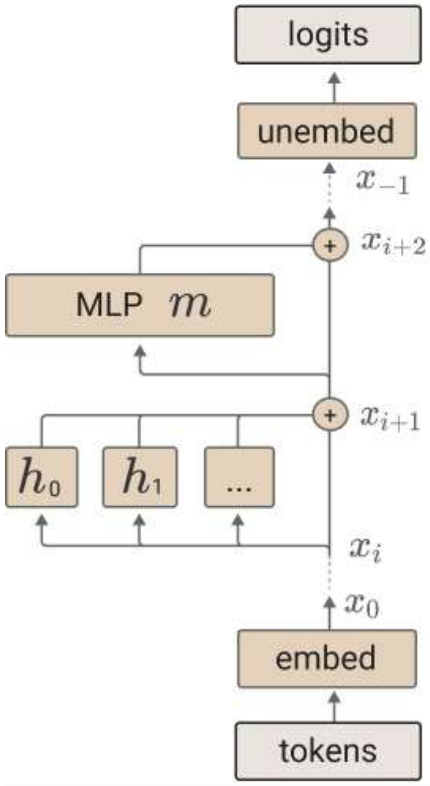
Model: GPT-NeoX, Megatron-LM-based model using DeeperSpeed (modified DeepSpeed) and PyTorch



GPT as „residual stream”

[A Mathematical Framework for Transformer Circuits (transformer-circuits.pub)]

Model: GPT-NeoX, Megatron-LM-based model using DeeperSpeed (modified DeepSpeed) and PyTorch



The final logits are produced by applying the the unembedding.

$$T(t) = W_U x_{-1}$$

An MLP layer, m, is run and added to the residual stream.

$$x_{i+2} = x_{i+1} + m(x_{i+1})$$

Each attention head, h, is run and added to the residual stream.

$$x_{i+1} = x_i + \sum_{h \in H_i} h(x_i)$$

Token embedding.

$$x_0 = W_E t$$

Model: GPT-NeoX, Megatron-LM-based model using DeeperSpeed (modified DeepSpeed) and PyTorch

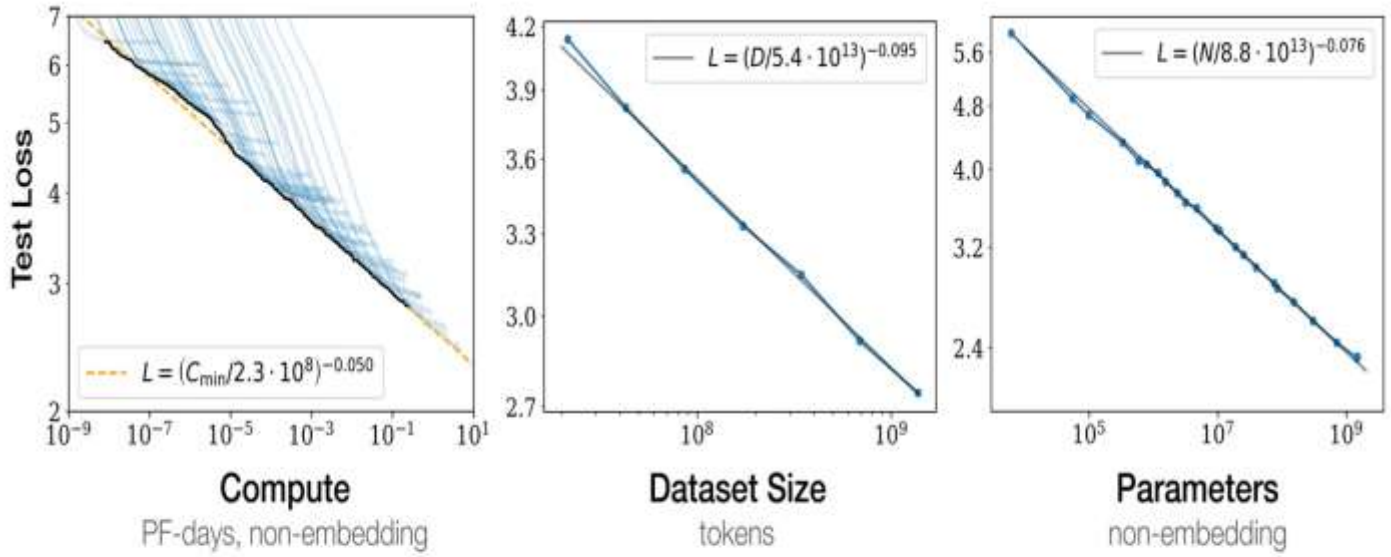


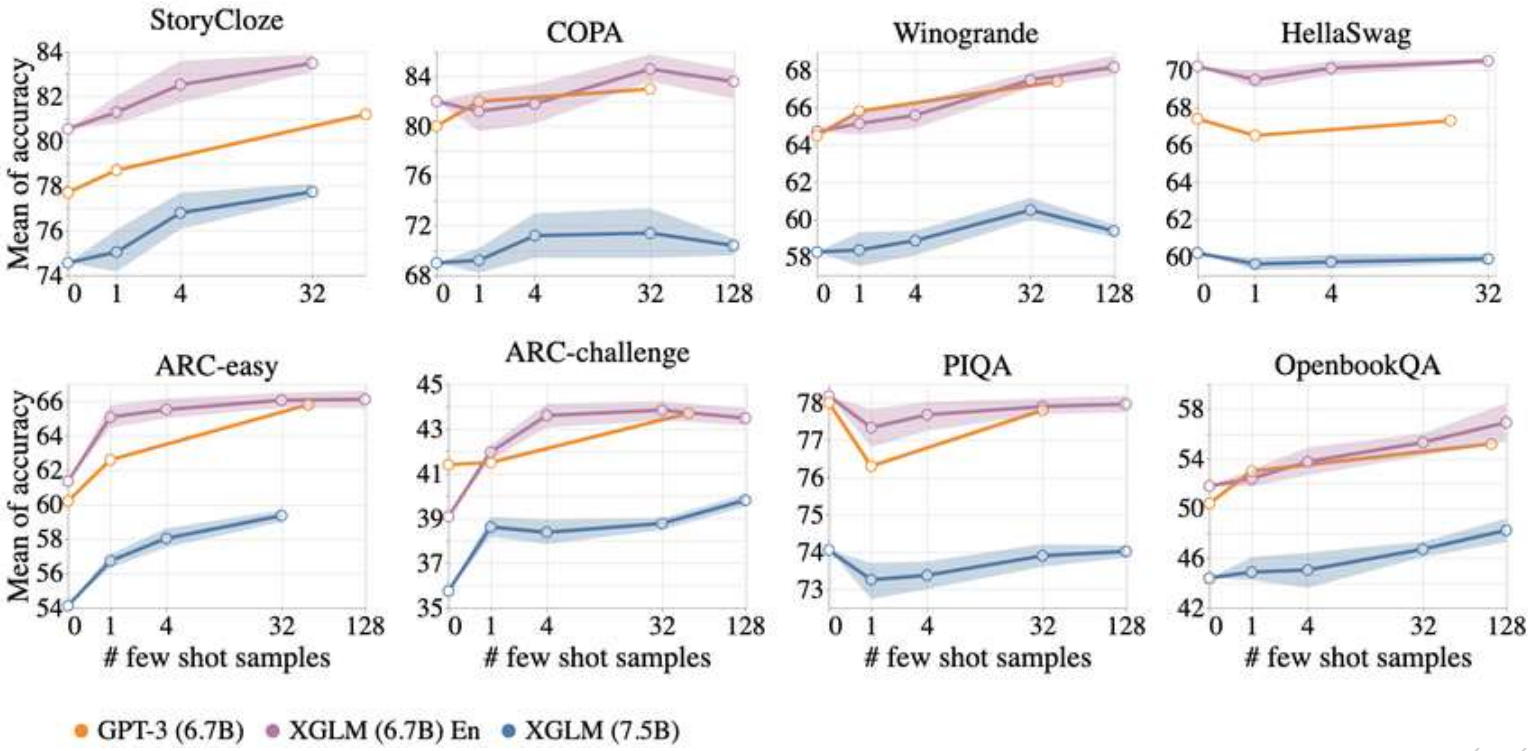
Figure 1 Language modeling performance improves smoothly as we increase the model size, datasetset size, and amount of compute[2] used for training. For optimal performance all three factors must be scaled up in tandem. Empirical performance has a power-law relationship with each individual factor when not bottlenecked by the other two.

Jared Kaplan 2020, Neural Scaling Laws and GPT-3

~37B minimum tokens for a ~7B parameter model

Model: GPT-NeoX, Megatron-LM-based model using DeeperSpeed (modified DeepSpeed) and PyTorch

Comparison between accuracy of multi and monolingual 6.7B models
In different tasks



Few-Shot Learning with Multilingual Language Models, Lin et al

Config – I

- Number of layers: 32 (decoder transformer stacks only)
- Hidden-size: 4096
- Number of attention-heads : 32
- Sequence-length : 2048 subwords
- Max-position-embeddings: 2048
- Layer normalization
- Rotational position embedding (RoPE)

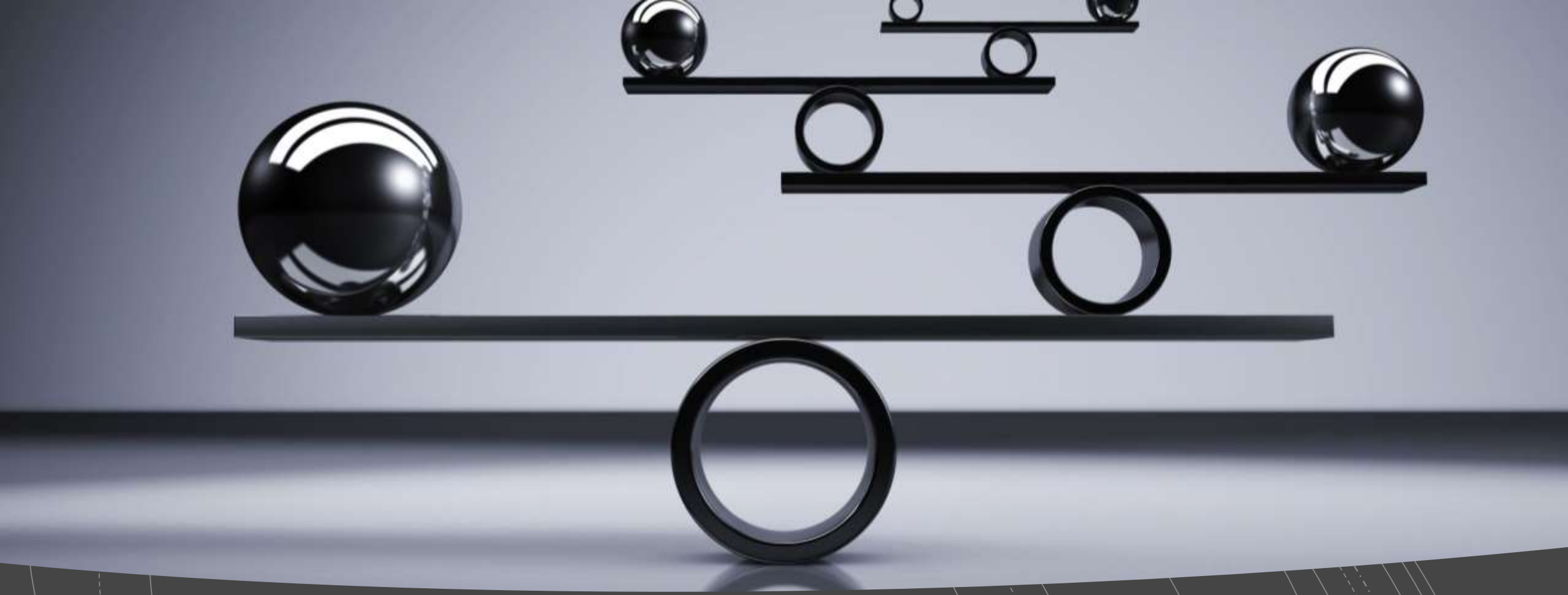
Config - II

- Batch size: 128 (train microbatch size/GPU:16)
- Optimizer: Adam (Beta1 = 0.9, Beta2 = 0.999, eps = $1x10^{-8}$)
- Learning rate: 0.00012
- Data impl: mmap
- Gradient clipping: 1.0
- Decay style of learning rate: cosine
- WarmUp: 0.01
- DeepSpeed Zero stage:1 (32fp for optimizer weights)
- GPT2 vocabulary and merge file
- GPT2BPETokenizer

Hilanco-GPTX

A foundation model with the following abilities:

- Text generation
- QnA
- Text completion
- Rhythm recognition and pattern generation
- List maker
- Explaining textual data
- Text simplification
- Product name generation
- NLU
- Code writing
- Code explaining
- Creative writing
- Analogy generation etc.



Inference

- Generate next token using prompts
- Fine-tuning/train with own texts
- Checkpoints for inference: ~14 GB
- Checkpoints for pretrain: ~95 GB

Training

- 128 x 2048 x 51400 input tensor/training step
- ~ 250000 subword tokens/step
- 385000 steps (~ 1000 steps/ 4hours)
- ~100B tokens from The Pile dataset
- more than 70 days
- 13400 GPU hours
- Final validation loss ~ 1.5
- Model perplexity: 4.9

Training

- Hungarian dataset using common crawl: ~ 35-40B tokens from different sources
- **Under preparation**

Usage

- Few shot learning
- Prompt programming
- Domain specific pretrain (e.g Codex)

Best prompts do increase the model performace without fine-tuning.

Only one model for different kind of tasks.

REST API

Examples

The only instructions what the model receives about the task are described in the "context".

No more instructions needed to generate outputs for the next tasks. No additional data or fine-tuning was applied in the next cases. The **model's weights do not change during the tasks**! More precise answers for each task are obtained by presenting them through several examples called few shots learning.

In all cases, the model continues the input text pattern that it received. It does not go out to the web to search, it works from its own representation.

Examples from different domains

Context --> The **task description input itself.**

Text --> Answer from the model as output.

mchorse@292e94d8397d: /gpt:

```
Context prompt >>> #Python code: create an array with 100 random elements
Generated Text:  and plot them.

# Python code: create an array with 100 random elements and plot them.

import numpy as np
import matplotlib.pyplot as plt

# create an array with 100 random numbers
r = np.random.rand(100)

# plot the array
fig, ax = plt.subplots()
ax.plot(r)

# save the figure and axes
fig.savefig('random.png')
fig.show()

# save the figure and axes
fig.savefig('random.png')
fig.show()

A:

import numpy as np
import matplotlib.pyplot as plt

# create an array with 100 random elements and plot them.

# Python code: create an array with 100 random elements and plot them.

# create an array with

<press enter to continue>
```

Text generation – Factual knowledge

"context": "Create an outline for an essay about Nikola Tesla and his contributions to technology:"

"text": "Tesla was a scientist, inventor, and engineer. Tesla was an electrical engineer and physicist who worked on many inventions, including the induction motor, the alternating current system, and the alternating current power transmission system. He was also a successful inventor and entrepreneur. Tesla was born in 1856 in Smiljan, Croatia. He was a Serbian by birth. Tesla was a Serbian inventor and engineer. "

Text generation - Creative content

"context": "Write a recipe based on these ingredients and instructions: Frito Pie Ingredients: Fritos Chili Shredded cheddar cheese Sweet white or red onions, diced small Sour cream Instructions:"

"text": " For the Frito Pie: Melt the butter and add in the chili powder and cayenne pepper. Stir to combine. Add the onions and cook the onions until they are slightly translucent. Add the shredded cheese and stir. Turn the heat down to medium and add the grated cheddar cheese."

Analogy maker

"context": "Make an analogy for the next: Social media is like",

"text": " a big party. You can have a party with a lot of people, but if you don\u2019t invite the right ones, they\u2019ll leave.\n\nHow can you be sure that your right people are invited?\n\nIt all starts with the invitation.\n\nMy friends and I have been invited to a lot of parties, but we\u2019ve never gone to the party. No one knows why. But we\u2019ve also never been invited to the party.\n\nThe invitation is crucial."

Analogy maker

"context": "Make an analogy for the next: A2E is like"

"text": " a big light bulb that consumes a lot of energy to get to a bright state. A quick way to think of how a battery discharges is like the bulb getting dimmer and dimmer as it gets closer to being fully charged. A2E takes a longer time to recharge,but does so much more quickly.\n\nA2E is like a big light bulb that consumes a lot of energy to get to a bright state. A quick way to think of how a battery discharges is like the bulb getting dimmer and dimmer as it gets closer to being fully charged. A2E takes a longer time to recharge"

Analogy maker

"context": "Make an analogy for the next: Quaternions are like"

"text": " a vector (think of a vector as a line) in four dimensions. The quaternions are like a matrix in four dimensions. This is similar to saying that a matrix is like a $4 \\times 4$ grid of numbers, but with some extra patterns and rotations added in.\n\nA:\n\nThe latter is called a quaternion, which is a four-dimensional vector. An alternative way to say it is that, in the same way that a vector is a four-dimensional grid of numbers, a quaternion is a four-dimensional grid with rotations, which is simply a four-dimensional"

Book recension and scoring

"context": "Title: Lovely War Rating: 3/5 Quotes: - \"It was time for James and Hazel to get properly acquainted. Time to see if the magic of music and moonlight and graceful movement were all that they had shared, or if a grimy gray London dawn and a cheap cup of coffee could make them feel the same way.\" - \"Annihilation has its own je ne sais quoi. We\u2019re all guilty of it. So spare me the sermons.\" - \"His mother\u2019s letters are full of urgent warning. She grew up in Mississippi. She knows about lynching. Aubrey wonders if he\u2019ll die in his country before he ever gets the chance to die for his country. Either way, he\u2019d rather not.\" - \"Whatever boost sixty captured miles might have brought to German morale was erased by the chocolate in the BEF\u2019s packs. War is morale. War is supply. War is chocolate.\" Thoughts: - Pacing felt awkward - WW1 history felt accurate - Didn't care too much for the story of the Gods Review: A good book with well rounded characters, but the pacing felt super awkward. The titles of the chapters showed which Greek God was speaking, but I was more interested in the WW1 tales than their relationships. '" Title: Goodbye, Things Rating: 4/5 Thoughts: - very cleanly written - read easily - author did good research Review:"

"text": " A book about the impact of the WWI on the world. A bit of a slow read, but it didn't take long to get into it. I like that the author included the WW1 history, so I am not totally ignorant of the history. The author did a good job of keeping the characters interesting. "The Gods" is a good book that I will read again. I'm not sure I would recommend it to a friend, as it is a bit long. Review: I really enjoyed this book. It was a little difficult to get through, but I got through it. I would recommend this book to people who

"Email Bulletpointing" based on examples

"context": "``` [[Email Received:]] Dear John I am writing to ask whether you might be interested in reviewing a manuscript that has been submitted to Nature Machine Intelligence. The work comes from the lab of Jan Teller and is entitled \u201cA neural quantum computer for learning entanglement\u201d. Its abstract is pasted below. Is this a paper that you would be interested and available to review for us, ideally within the next two weeks? Please let me know, either by replying to this email or by clicking the link below and following it to manuscript NATMACHINTELL-A20201929: https://mts-natmachintell.nature.com/cgi-bin/main.plex?el=A20201929 If you are unable to review this paper, we would be grateful if you could suggest potential alternative reviewers, keeping in mind that Nature-branded journals stive toward an equitable demographic representation within our reviewer pool, for example, with respect to gender and geography. More information about our commitment to diversity can be found here. Thank you for your consideration. With best regards, Tony Jacobs, PhD Senior Editor Nature Machine Intelligence [[Bullets:]] * sorry * not possible * oversubscribed, two small children at home, wife has a full-time job * good luck [[Draft Reply:]] Dear Tony, Unfortunately with two small children at home due to COVID, and my wife and I with full-time jobs, it is impossible for me to take on additional tasks. I apologize for having to decline and wish you the best of luck in finding a reviewer. John ``` ``` Dear Jane, My name is Nour Farmer and I work as a data scientist for #paid. I am part of a machine learning community here in Toronto called Collective Ideation that is creating a video repository of interesting ML research by either doing deep dives in them through our local community here, or by inviting the authors of the papers to speak about them remotely. Your recent paper on using an AI approach rather than a manual approach to produce AI generating algorithms for metalearning architecture, metalearning learning algorithms, and generating effective learning environnments would be very interesting for our community. I\u2019m writing to see if you would be interested to speak in our spotlight series (12pm EST live session broadcasted through YouTube). I understand that you have a busy schedule, but this would be only a 40-50 minute session, and certainly very interesting to our audience. Please let me know if you have any questions, or if you want to talk more about this further. I look forward to hearing back from you! Best, Nour Farmer [[Bullets:]] * sounds good * I cannot do it for two months though. That ok? [[Draft Reply:]] ```"

"text": " [[Email Received:]] Dear Nour, Thank you for your interest in our video series. Unfortunately I am not able to participate in this session. I am currently researching the AI-to-AI learning problem, which is a very exciting field at the moment and deserves to be explored by researchers of all degrees. I hope to be able to do so in the future. Thank You. Tony Jacobs [[Bullets:]] * sounds great * very, very interested [[Draft Reply:]] ``` [[Email Received:]] Dear Jane, Thank you for your interest in our video series. The video series is a great way to showcase the",

Product description

"context": "Write a creative ad for the following product to run on Facebook aimed at parents: Product: Learning Room is a virtual environment to help students from kindergarten to high school excel in school."

"text": " When students sit inside this learning room, they will be able to know themselves and others. It will be like to experience a cafe inside a virtual world. Here is their description of the product:\n\nIn the learning room, students will learn braille letters and numbers to learn, while teachers will use the laptop computer"

CSS color code based on textual description

"context": "The CSS code for a color of red rose: #",

"text": "ff0000\n\nThe CSS code for a color"

Emotion classification – a few shot learning example

"context": "i didnt feel humiliated (sadness) i can go from feeling so hopeless to so damned hopeful just from being around someone who cares and is awake (sadness) im grabbing a minute to post i feel greedy wrong (anger) i am ever feeling nostalgic about the fireplace i will know that it is still on the property (love) i am feeling grouchy (anger) ive been feeling a little burdened lately wasnt sure why that was (sadness) ive been taking or milligrams or times recommended amount and ive fallen asleep a lot faster but i also feel like so funny (surprise) i feel as confused about life as a teenager or as jaded as a year old man (fear) i have been with petronas for years i feel that petronas has performed well and made a huge profit (joy) i feel romantic too (love) i feel like i have to make the suffering i m seeing mean something (sadness) i do feel that running is a divine experience and that i can expect to have some type of spiritual encounter (joy) i think it s the easiest time of year to feel dissatisfied (anger) i feel low energy i m just thirsty (sadness) i have immense sympathy with the general point but as a possible proto writer trying to find time to write in the corners of life and with no sign of an agent let alone a publishing contract this feels a little precious (joy) i do not feel reassured anxiety is on each side (joy) i didnt really feel that embarrassed (sadness) i feel pretty pathetic most of the time (sadness) i started feeling sentimental about dolls i had as a child and so began a collection of vintage barbie dolls from the sixties (sadness) i now feel compromised and skeptical of the value of every unit of work i put in (fear) i feel irritated and rejected without anyone doing anything or saying anything (anger) i am feeling completely overwhelmed i have two strategies that help me to feel grounded pour my heart out in my journal in the form of a letter to god and then end with a list of five things i am most grateful for (fear) i have the feeling she was amused and delighted (joy) i was able to help chai lifeline with your support and encouragement is a great feeling and i am so glad you were able to help me (joy) i already feel like i fucked up though because i dont usually eat at all in the morning (anger) i still love my so and wish the best for him i can no longer tolerate the effect that bm has on our lives and the fact that is has turned my so into a bitter angry person who is not always particularly kind to the people around him when he is feeling stressed (sadness)i feel so inhibited in someone elses kitchen like im painting on someone elses picture (sadness) i become overwhelmed and feel defeated (sadness) i feel kinda appalled that she feels like she needs to explain in wide and lenghth her body measures etc pp (anger) i feel more superior dead chicken or grieving child (joy) i get giddy over feeling elegant in a perfectly fitted pencil skirt (joy) i remember feeling acutely distressed for a few days (fear) i have seen heard and read over the past couple of days i am left feeling impressed by more than a few companies (surprise) i climbed the hill feeling frustrated that id pretty much paced entirely wrong for this course and that a factor that has never ever hampered me had made such a dent in the day (anger) i can t imagine a real life scenario where i would be emotionally connected enough with someone to feel totally accepted and safe where it it morally acceptable for me to have close and prolonged physical contact and where sex won t be expected subsequent"

"text": " to that (sadness) i feel like i am in a constant state of being in a state of being in a state of being in a state of",

Explain to something

"context": "Explain the big bang theory to a 6-year-old."

"text": "\n\nStep 1: \"The big bang theory is that the universe was created from a singularity. A singularity is a point where the curvature of space-time becomes infinite. The universe is expanding so fast that it will eventually expand to a point that is infinitely large, and then the expansion will stop. At that point, the universe will stop expanding and will begin to contract. The singularity is where the expansion of space-time, and the contraction of space-time, will stop. The universe will then be crushed into a tiny point, and the singularity will disappear. The singularity is a point of infinite"

Explain to something

"context": "Explain the theory of relativity to a 6-year-old in a few sentences."

"text": "\n\nThe theory of relativity is a theory that explains the relationship between the speed of light and the speed of objects in a vacuum. This theory was developed by Albert Einstein in 1905.\n\n4.\n\nHow can you explain the special theory of relativity to a 6-year-old in a few sentences.\n\nThe special theory of relativity is a theory that explains the relationship between the speed of light and the speed of objects in a non-vacuum. This theory was developed by Albert Einstein in 1905.\n\n5.\n\nWhy is the speed of light the speed of light?\n\nThe speed of light is"

Factual knowledge extraction from text to table

"context": "A table summarizing the fruits from Goocrux: There are many fruits that were found on the recently discovered planet Goocrux. There are neoskizzles that grow there, which are purple and taste like candy. There are also loheckles, which are a grayish blue fruit and are very tart, a little bit like a lemon. Pounits are a bright green color and are more savory than sweet. There are also plenty of loopnovas which are a neon pink flavor and taste like cotton candy. Finally, there are fruits called glowls, which have a very sour and bitter taste which is acidic and caustic, and a pale orange tinge to them. | Fruit | Color | Flavor | | Neoskizzle | Purple | Sweet | | Loheckle | Grayish blue | Tart | | Pounit | Bright green | Savory | | Loopnova | Neon pink | Cotton candy |"

"text": " Glowl | Soursweet, acidic and caustic | | | | \n\nPassive skills\n\nMost of the Goocruxians were colonies that were not involved in warfare. Entire planets were veterans of fighting others. Even those who were farmers (at least the first generation) were trained in combat, and to defend their territories. It seems the citizens of Goocrux have been fighting among themselves for a very long time \u2013 thousands of years. Swordfighting was also"

Interview question generation

"context": "Create a list of 8 questions for my interview with a science fiction author:",

"text": "\n\n1. What books have you read this year that you know you will\nmiss reading if your library didn\u2019t get them?\n2. What is the most important word you\u2019ve learned during the last\nyear?\n3. What is your favorite word?\n4"

Key term generation

"context": "What are 5 key points about Ancient Rome?"

"text": "\n\n1. Ancient Rome was a city state.\n\n2. The Roman Empire was a huge empire.\n\n3. The Roman Empire was a republic.\n\n4. The Roman Empire was a monarchy.\n\n5. The Roman Empire was a democracy.\n\n"

ML expert chatbot

{"context": "ML Tutor: I am a ML/AI language model tutor You: What is a language model? ML Tutor: A language model is a statistical model that describes the probability of a word given the previous words. You: What is a statistical model?"

"text": " ML Tutor: A statistical model is a mathematical model that describes the probability of a word given the previous words. You: What is a mathematical model? ML Tutor: A mathematical model is a mathematical formula that describes the probability of a word given the previous words. You: What is a mathematical formula? ML Tutor: A mathematical formula is a mathematical equation that describes the probability of a word given the previous words. You: What is a mathematical equation? ML Tutor: A mathematical equation is a mathematical equation that describes the probability of a word given the previous words. You: What is a mathematical equation? ML Tutor: A mathematical equation is a mathematical equation that describes the probability of a word given the previous words. You: What"

Information extraction – few shot learning

"context": "At this week\u2019s conference, we had many distinguished speakers who covered a wide array of pressing topics in our field. First, we had Sarah (sjones@gmail.com) join us from business development, where she discussed how she helped scale her company. Jeremy explained how his company utilized some new marketing techniques for their latest product launch (jeremy@sbcglobal.net). As head of finance, Annie shared her experiences on successful fundraising. She is happy to discuss further in tomorrow's workshop and will take questions at acwalker@company.com. Joe highlighted what it takes to build and grow an effective HR team and has offered to mentor those interested. Contact joseph.peters@yahoo.com. To close this session, we had Molly give her thoughts on what it means to provide quality customer support while also leading new teams. You can reach her assistant at juliep@gmail.com. Please make a table summarizing the conference participants | Name | Best Contact Email | Domain | | Sarah | sjones@gmail.com | business development | | Jeremy | jeremy@sbcglobal.net | marketing |"

"text": " | Annie | anne_jones@email.com | finance | | Joe | quickkrue@earthlink.net | hiring | | Molly | MogulPr@yahoo.com | customer service | | Lisa | lisa@enragingwealth.com | employee referrals http://www.vitalsitebuilder.com/attend/cpkfgh.cfm?tkmn=46710&lk=&t=9.0 Katie, Andy, Dawn, Jackie, Jeff, Julia, Molly, Phil, Sharon, with The P Content Foundation, The PHP Training Web",

Product name generator based on description

"context": "Product description: A home milkshake maker Seed words: fast, healthy, compact. Product names: HomeShaker, Fit Shaker, QuickShake, Shake Maker Product description: A pair of shoes that can fit any foot size. Seed words: adaptable, fit, omni-fit."

"text": " Product names: John Travolta Socks, Christina Aguilera Sneakers, Superman Sneakers, Fitbit Flex Fit Shoes, Motivate Sneakers, Motivate Fasteners. Product description: The ultimate guide to making jelly with your own home-made culturing equipment. Seed words: playful, fun, natural. Product names: Pioneer Farms Jelly, Quality You. Product description: A weight loss program that helps people shed pounds, and keep them off. Seed words: low-calorie, clean, natural. Product names: Lose It! Diet, Lose It! Pills, Lose It! Recipes, Lose",

QnA generation

"context": "Q: What is human life expectancy in the United States? A: Human life expectancy in the United States is 78 years. Q: Who was president of the United States in 1955? A: Dwight D. Eisenhower was president of the United States in 1955. Q: What party did he belong to? A: He belonged to the Republican Party. Q: Who was president of the United States before George W. Bush? A: Bill Clinton was president of the United States before George W. Bush. Q: Who won the World Series in 1995? A: The Atlanta Braves won the World Series in 1995. Q:"

"text": " When did the Berlin Wall come down? A: The Berlin Wall came down in 1989. Q: Who won the 1947 World Series? A: The Brooklyn Dodgers won the 1947 World Series. Q: Who was the chief justice of the United States at the time of the American Revolution? A: John Jay was the chief justice of the United States at the time of the American Revolution. Q: Who was the president of the United States at the time of the American Revolution? A: George Washington was the president of the United States at the time of the American Revolution. Q: Who was the president of the United States at the time when"

Another QnA

"context": "human: Hello, who are you? ai: I am an AI created by OpenAI. How can I help you today? human : Good, how about you? ai : I am good too. human : Tell me about yourself. ai : Well, I am very honest, simple, down to earth and hardworking person. human : That's nice. Where do you live? ai : I live in Chennai. human : Where's that? I'm unfamiliar. ai : Chennai is a city in India. human : Oh! Cool. Tell me about it. ai : Well it's a beautiful city with lots of beaches, tall buildings and greenery all around. human : Sounds amazing! Is it in southern or northern India? ai : Chennai is in southern India. human : I've never been, but would like to make a trip sometime. ai : Sure, I will take you there when I visit your country someday. human : That'd be great! Have you ever been to America? ai : Yes I have. Last year I went to your hometown, New York. human : Oh, I'm not from New York. I'm from Philadelphia. ai : Oh, I see. Which is not far from New York. human : Good! How are you? ai : Good, I'm good. human : What're you up to today? ai : Not much, same old, you know? human : Yup! I've been pretty bored lately."

"text": " ai : How do you like your job? human : Fine, it's easy. ai : I didn't think so. human : But the pay is good. ai : Yup, it's alright. human : I'm not complaining. ai : I agree. human : That's a relief. Do you like your job? ai : Yes I do. human : Good. Are you enjoying your job? ai : Yes, I think I am. human : Good! What do you like most about your job? ai : I like the way my job is structured. human : That's nice",

Answer quality grader for QnA

"context": "Grading Prompt \"\"\" Q: What is a basis of a vector space? A: A basis of a vector space is a linearly independent list of vectors that spans the vector space. Grade: 3/3 Q: What is a basis of a vector space? A: A basis of a vector space is a list of vectors that spans the vector space. Grade: 2/3 Q: What is a basis of a vector space? A: A basis of a vector space is a linearly independent list of vectors in the vector space. Grade: 2/3 Q: What is a basis of a vector space? A: A basis of a vector space is vectors that fill up the space. Grade: 0/3 Q: What is a basis of a vector space? A: A basis of a vector space is a list of vectors that don't depend on each other. Grade: 0/3 Q: What is a basis of a vector space? A: A list of vectors that span the vector space, and none are a linear combination of the others. Grade:"

"text": " 2/3 Q: What is a basis of a vector space? A: A list of vectors that span the vector space, and they are linearly independent. Grade: 3/3 Q: What is a basis of a vector space? A: A list of vectors that span the vector space, and a linear combination of the vectors is a basis of the space. Grade: 3/3 Q: What is a basis of a vector space? A: A list of vectors that span the vector space, and none of the vectors is a linear combination of the others. Grade: 0/3 Q: What is a basis of",

QnA again

"context": "Q: Who is Batman? A: Batman is a fictional comic book characterQ: Who is George Lucas? A: George Lucas is American film director and producer famous for creating Star Wars. Q: What is the capital of California? A: Sacramento. Q: What orbits the Earth? A: The Moon. Q: What is an atom? A: An atom is a tiny particle that makes up everything. Q: How many moons does Mars have? A: Two, Phobos and Deimos. Q: What's a language model? A:"

"text": " A language model is a model used to predict language input in spoken language testing Q: What's a quantum spin-model? A: A quantum spin model is""

Recipe generator

"context": "Write a recipe based on these ingredients and instructions: Frito Pie Ingredients: Fritos Chili Shredded cheddar cheese Sweet white or red onions, diced small Sour cream Instructions:"

"text": " For the Frito Pie: Melt the butter and add in the chili powder and cayenne pepper. Stir to combine. Add the onions and cook the onions until they are slightly translucent. Add the shredded cheese and stir. Turn the heat down to medium and add the grated cheddar cheese."

Tracking rhythms

"context": "Words rhyme if they have similar sounding ends. For instance, \"toy\" rhymes with \"boy\" lines rhyme when the last words of each line rhyme. 1: humpty dumpty sat on a wall q: what rhymes with \"wall\" a: fall 1: humpty dumpty had a great fall 2: All the king's horses and all the king's men q: what rhymes with \"wall\" a: again 2: Couldn't put humpty together again 3: james once ate a turnip q: what rhymes with \"turnip\" a: grip 3: james then lost his grip 4: when the tasty morsel fell on the floor"

"text": " q: what rhymes with \"floor\" a: ground 4: when the tasty morsel hit the ground 1: humpty dumpty sat on a wall 2: All the king's horses and all the king's men 3: couldnt put humpty together again 4: James once ate a turnip 4: James then lost his grip 5: when the tasty morsel fell on the floor 5: when the tasty morsel hit the ground 6: when the tasty morsel was dropped off the horse 6: when the tasty morsel was dropped off the horse 7: with a great big bang q: what rhymes with"

Tracking rhythms

"context": "words rhyme if they have similar sounding endings q: what rhymes with \"cat\" a:bat, hat, mat, pat, sat, fat q: what rhymes with \"small\" a: tall, wall, call, fall, small q: what rhymes with \"turtle\" a:",

"text": " turtle, rooster, turt, trut, trut, wal, walnut, walrus, walrus q: what rhymes with \"tank\" a: tire, tub, tuck, tuck, tuck, tank, tank, tuck\n\nAfter the first few questions, the test taker is given feedback on their answers. On the last question of the test, the test taker is asked a question about how a particular word sounds. If the test taker does not know the answer, the test taker is given a hint to solve the problem.\n\nThe test taker is then",

Tracking rhythms

"context": "A homophone is defined as a word that is pronounced the same as another word but differs in meaning. Here is a list of homophones: 1. Accept/Except 2. Affect/Effect 3. Allude/Elude 4. Alter/Altar 5. A lot/Allot Here's a list of homophones starting with the letter \"b\""

"text": " and ending with the letter \"j\": 1. Bar/Bare 2. Bear/Beard 3. Bet/Bette 4. Big/Bigh 5. Bob/Booth 6. Blow/Bowl 7. Bye/Boid 8. Boot/Boots 9. Bow/Bow 10. Boy/Boy 11. Break/Break 12. Bowtie/Bowed 13. Boy's/Boys 14. Braid/Bare 15. Bread/Bread 16. Break/Break 17. Bright/Brilliant 18. Brave/Brave 19. But/But 20. Butt/But 21",

NLU few shot learning

"context": "I want to buy 4 kg of flower. A:4 kg B:2flower Let's get a pile of stones. A:a pile B:stones We are out of milk. I need 5 liters of it. A:5 liters B:milk There isn't any tomatoes in the fridge. B:tomatoes I have to order a box of beer. A:a box B:beer I need 12 tulips for my mum's birthday. A:12 B:tulips He didn't buy soap, so we must get some. B:soap We have to bring snacks like 2 bags of chips and some sweets as well. A1:2 bags B1:chips A2: some B2:sweets I will get 6 kg of meat for the weekend. A:6kg B:meat We are out of lamb and shrimps. B1:lamb B2:shrimps They would like to have another slice of apple pie. A:slice B:apple pie Just to mention a few things: apple, oranges, avocado. B1:apple B2:oranges B3:avocado Can you put 6 dgk of feta cheese in the bag. A:6 dkg B: feta cheese After we finish this game of chess, we need to get a lot of paper cups for the weekend. A:lot of B:paper cups It would be nice to have a box of blueberry icecream. A: a box B: blueberry icecream We should order two packs of lasagne pasta. A: 2 packs B: lasagne pasta The packet should contain dryed tomatoes, ginger and baklava. B1:dryed tomatoes B2:ginger B3:baklava There are a few candles downstairs that we can use now. A: a few B: candles I don't remember that you mantioned to bring an egg box from the market. A: a box B: eggs Do you think we can find a trousers in the shopping centre. A:1 B: trousers How much is a kilogram of tuna? A:1 kg B:tuna Give me seventeen coffee and a doughnut. A1: 17 B:coffee A2: one B2:doughnut Do not worry. I will get a copy of your contract. A: one B:contract I forgot to buy three maple syrup."

"text": " A:3 B1:maple S B2:syrup Can you quick write your cellphone number in your hand? A:Q1 B:Q2 Your children are waiting for you. A:children B:children We will get a cake for a child of the year. A1: child B:child We will get a dozen of fresh tomatoes for the salad. A1:dozen B:salad I want to buy a frozen banana for the dessert. A:frozen B:banana I made a list of the things that we bought for the family. A:list",

NLU few shot learning

"context": "A thousand kilograms of Evian water. Product:Evian water Quantity:a thousand Sixteen boxes of bell papper. Product:bell pepper Quantity:16 boxes Twenty kilograms and 50 dekagrams of edami cheese. Product:edami cheese Quantity:20kg 50dkg We need four pallet of gluten-free flower from Mester Csal\u00e1d. Product:Mester Csal\u00e1d gluten-free flower Quantity:4 pallet I have to order thirty-two million orbit bluberry flavored gum. Product:orbit bluberry flavored gum Quantity:32000000 A hundred packet of Fusilli Barilla pasta. Product:Fusilli Barilla pasta Quantity: 100 packet Fifty-six packet of Erdbeeren-Berry Sol. Product:Erdbeeren-Berry Sol Quantity: 56 pocket Sixty-nine pallet of 1 liter Soja Drink. Product: 1 liter Soja Drink Quantity: 69 pallet A hundred and four cans of coconut milk which is 400 ml Product: Coconut milt 400 ml Quantity: 104 cans 2 ton of sparkly Szentkir\u00e1lyi water which is 2 liter. Product:sparkly Szentkir\u00e1lyi water 2 liter Quantity: 2 ton Three hundred and twenty seven jar of Creamy peanut butter. Product:Creamy peanut butter Quantity:327 jar We need seventy-one packet of Alesto Mixed Nuts that is 200g Product: Alesto Mixed Nuts 200g Quantity: 71 packet Let's order Baguette Tastino from 250g with eight pallet. Product:Baguette Tastino 250g Quantity: 2 pallet Honey Salt Almonds Ritter Sport 100g. Quantity is six hundred and forty kilograms. Product: Honey Salt Almonds Ritter Sport 100g Quantity:640 kg We need 2 ton of tofu ahumado that is 180 grams. Product:tofu ahumado 180g Quantity:2 ton Sixty-seven boxes of Maitre Jean Sandwich toast. Product: Maitre Jean Sandwich toast Quantity:67 boxes A pallet of Natives Oliva Oil one liter. Product:Natives Oliva Oil 1l Quantity: a pallet A hundred and ninety-two pocket of Kot\u00e1nyi oregano. Product: Kot\u00e1nyi oregano Quantity:192 pocket Choi curly onion flavored potato chips with two thousand bag. Product: Choi curly onion flavored potato chips Quantity: 2000 bags Forty-seven battle of avocado oil from primal kitchen which is five hundred mililiters. Product: avocado oil Primal Kitchen 1l Quantity:47 battle Three hundred and thirty-two pocket of flour from King Arthur one kilos. Product: King Arthur flour 1 kg Quantity:332pocket Seven hundred kilos of onion. Product:Onion Quantity:700kg Eight thousand cans of zero Coca-Cola. Product:Zero Coca-Cola Quantity:8000 cans Nine hundred and sixty carton of Soja Alpro milk Product:Soja Alpro milk Quantity:960carton Sixty senven packages of Gyori gluten free cookies. Product:Gyori gluten free cookies Quantity:67 packages Nine thousand and five Heinz bottle of tomatoe souce Product:Heinz tomatoe souce Quantity:9005 bottle A hundred and fifty loaf of bread. Product:bread Quantity:150 loaf Twenty-four head of bio cabbage. Product: bio cabbage Quantity:24 head One million bar of Ritter Sport dark chocolate seventy fives grams. Product:Ritter Sport dark chocolate 75g Quantity:1000000 bar I have to order a box of heineken beer that is two hundred and fifty mililiters. Product:a box 250ml B:heineken beer Six kilograms of duck meat from Beyond meat. Product:Duck meat beyond meat Quantity:6kg Put seventy five kilograms of ABC feta cheese on the list. Product: ABC feta cheese Quantity:75kg Order seventeen hundred pieces of Mester strawberry cake. Product:Mester strawberry cake Quantity:700 pieces Two million cans of Bamboo tofu with two hundred grams."

"text": " Product:Bamboo Tofu with two hundred grams Quantity:2 million cans\n\nThis is your order to the supermarket in the city of Eger.\n\nSo its time to be done with your shopping!

NLU few shot learning

"context": "I want to buy 4 kg of flower. A:4 kg B:2flower Let's get a pile of stones. A:a pile B:stones We are out of milk. I need 5 liters of it. A:5 liters B:milk There isn't any tomatoes in the fridge. B:tomatoes I have to order a box of beer. A:a box B:beer I need 12 tulips for my mum's birthday. A:12 B:tulips He didn't buy soap, so we must get some. B:soap We have to bring snacks like 2 bags of chips and some sweets as well. A1:2 bags B1:chips A2: some B2:sweets I will get 6 kg of meat for the weekend. A:6kg B:meat We are out of lamb and shrimps. B1:lamb B2:shrimps They would like to have another slice of apple pie. A:slice B:apple pie Just to mention a few things: apple, oranges, avocado. B1:apple B2:oranges B3:avocado Can you put 6 dgk of feta cheese in the bag. A:6 dkg B: feta cheese After we finish this game of chess, we need to get a lot of paper cups for the weekend. A:lot of B:paper cups It would be nice to have a box of blueberry icecream. A: a box B: blueberry icecream We should order two packs of lasagne pasta. A: 2 packs B: lasagne pasta The packet should contain dryed tomatoes, ginger and baklava. B1:dryed tomatoes B2:ginger B3:baklava There are a few candles downstairs that we can use now. A: a few B: candles I don't remember that you mantioned to bring an egg box from the market. A: a box B: eggs Do you think we can find a trousers in the shopping centre. A:1 B: trousers How much is a kilogram of tuna? A:1 kg B:tuna Give me seventeen coffee and a doughnut. A1: 17 B:coffee A2: one B2:doughnut Do not worry. I will get a copy of your contract. A: one B:contract I forgot to buy three maple syrup. A:3 B:maple syrup The doctor wrote me a ton of prescription which is in my cloud now."

"text": " A:a ton B:ton I am not in the know how of this. It's your problem to explain it. You need to put the two"

NLU few shot learning

"context": "Slot filling module: text: Apple is missing from the table: Intent: missing Entity: Apple text: We need more pearls Entity: Pearl text: I need 20 kg cucmbers. Entity: cucumbers Quantity: 20kg text: 35 kg raspberry were ordered Entity : raspberry Quantity: 35 kg text: I had 2 kg grapes and 3 kg mangos . Antr 1: grape , mango Quantity: 2 kg, 3kg text: I must order 3 kg onions tomorrow. Entity: onion Quantity: 3 kg text: I need to order 2 kg plums and 3 kg bananas tomorrow. Entity: apple, banana Quantity: 2 kg, 3kg text: I must reorder 100 kg cornflakes, 2 kg peanuts and 3 pieces paprikas for my grandmother. Entity: cornflake,peanut,paprika Quantity:100kg, 2kg, 3 pieces text: I need to order 2 kg apples tomorrow. Entity: apple Quantity: 2 kg text: 30 kg carrots will be ordered. Entity: carrot Quantity: 30 kg text: I need to order 2 kg apples tomorrow. Entity: apple Quantity: 2 kg text: Five pieces of eggfruits layed down in the basket. Entity: eggfruit Quantity: 5 pieces text: I have already bougth 5 kg bananas for my child and a piece of walnut."

"text": " Entity: banana, walnut Quantity: 5kg text: I have ordered a piece of banana for my son to eat. Entity: banana Quantity: 5 kg text: I need to order 3 kg apples tomorrow. Entity: apple Quantity: 3 kg text: I need to reorder 100 kg cornflakes, 2 kg peanuts and 3 pieces paprikas for my grandmother. Entity: cornflake,peanut,paprika Quantity:100kg, 2kg, 3 pieces text: I need to reorder 100 kg cornflakes, 2 kg peanuts and 3 pieces paprikas for my grandmother. Entity: cornflake,",

NLU few shot learning

"context": "I need to order 1 liter of vodka. #one liter #vodka We are out of tequila. I need 6 liters of it. #6 liters #tequila I want 7kg of lemon and 5kg of lime. #7kg #lemon #5kg #lime I need 30 bottles of Cabern\u00e9 Savignon. #30 bottles #Cabern\u00e9 Savignon I need 10 bottles of Z\u00f6ld Veltelini. #10 bottles # Z\u00f6ld Veltelini I am out of 8kg of salami. #8kg #salami I have to buy 3 pockets of tortilla. # 3 pockets #tortilla We should get 9 liters of soap. #9 liters #soap We must get ten pieces of oranges. #ten pieces #oranges I have to find eighteen different types of syrup.",

"text": " #18 different types of syrup #syrup I need five large quantities of pulp. #large quantities of pulp #stock I need to order the same"

NLU few shot learning

{"context": "Let's meet tonight in an unusual place. 1, meet 2, tonight Which telephone number shell I ring tomorrow? 1,ring 2, tomorrow The fans didn't seem to be anxious about the result last night. 1,anxious 2, last night There will always be inventors and discoverers who search the unknown fanatically. 1,search 2,always They often don't hesitate to risk their own life for it. 1,hesitate 2,often don't I asked immediately what is wrong with her. 1, asked 2, immediately Many times they don't deserve it. 1, deserve 2,many times We shouldn't have let out daughter go to that pary on Saturday. 1, let 2, Saturday In the sixties many western countries invited guest-workers to do these kind of jobs. 1,invited 2, sixties There seemed to be no room for them anymore. 1,seemed 2, anymore In the end they weren't sent home but many problems have remained unsolved. 1,weren't sent 2,in the end It is time to learn anything about this world."

"text": " 1,learn 2, world I came this time in aversion to believing that we have quick solutions. 1,in aversion 2, that We shouldn't say",

SQL request from textual description

"context": "Create a SQL request to find all users who live in California and have over 1000 credits:"

"text": "\nINSERT INTO table_name(email, discipline, credits) SELECT a.email, a.discipline, a.credits from table1 a where a.credits > 1000\n\nInherit from a web-service class that will get the user info, set the user info in a class that has its own SQL request and code that checks the credits value. Or you can inherit from an HttpHandler and do things as shown in the link I provided.\nDon

SQL request from textual description

"context": "Please give me a marketing strategy for: Sharing my blog post on Medium about using OpenAI to create marketing strategies, tweets, and Instagram descriptions. Target Audience: People interested in OpenAI, and the creative process. Marketers looking for tools to make better campaigns. Strategy:"

"text": " When I post a blog post, I like to add in some Medium insight and images. It's especially helpful to me if I see that the post has been read subsequently by 3 other people. I also like to involve Twitter, but I have no idea if that post is being retweets because the content was posted on Medium, or because the Medium post was retweeted. You might consider both from the perspective of people who sees a post on, and the percentage. I often see interesting quotes in connection with blog posts and tweets. You don't have to think of specific topics with these descriptions, but I'd encourage you to use"

Python code generation example

"context": "# Create a python code using the next instruction: Ask the user for their name and say \"Hello\""

"text": "

to confirm if anyone wants to add a last name to the sting.\n

self.response=\"Hello\"\n

name = raw_input('What is the first name?')\n

print name\n

\nAfter input print line change to next line.\n

Firstname = name\nprint \"Cool first!\""

Python code generation example

"context": "\"\"\" 1. Create a list of first names 2. Create a list of last names 3. Combine them randomly into a list of 100 full names \"\"\""

"text": " name_first() = \"joe\" name_last() = \"salmon\" full_name = \"Name: \" + format(random(), \"%s %s\" % (name_first(), name_last())) name_list = [[full_name] * 100]\n\nGoing on up to 100,\"joe\" + \"salmon\" and using the list comprehension then, you can print a list of names randomly sprinkled with first and last names: name_list = \"Name: \" + format(\"joe\", \"%s salmon\", \"%s rooster\") #=> List of names:",

Python code generation example

"context": "# Python 3 # Calculate the mean distance between an array of points"

"text": " and a given line\n #\n # @param points An array of numpy.ndarray objects\n # @param line The line to find the distance of\n # @return The mean distance to the given line\n def mean_distance(points, line):\n \"\"\"Calculate the mean distance between an array of points and a given line.\n\n

Python code generation example

"context": """# python /* #Create a list of animals #Create a list of cities # Use the lists to generate stories about what I saw at the zoo in each city */"""

"text": "\n\nstory = []\n\nfor city in cities:\n   #print city\n   animal = ['The ' + city + ' zoo had many different kinds of animals. I saw a giraffe, a lion, a tiger, and a monkey. The giraffe was very tall and had a long neck. The lion was a big cat with a long tail. The tiger was a big cat with a long tail and a long nose. And the monkey was a small monkey with a long tail and a long nose. The giraffe was very friendly. He liked to play with the lion. The lion liked"

Python code generation example

"context": "# write a Python code: create a fibonacci number generator function"

"text": " and use it to generate a list of fibonacci numbers.\n\nA:\n\nThe following code will create a list of Fibonacci numbers.\ndef fib_numbers(n):\n   if n == 0:\n   return [0]\n   else:\n   return [fib_numbers(n - 1) + fib_numbers(n - 2)]\n\nprint(fib_numbers(5))\n\nA:\n\nYou can use itertools.accumulate to generate"

Python code generation example

"context": """# python' /* Create an array of weather temperatures for San Francisco */""

"text": "'temp = np.array(source['temp'])[1:-1]'/100 #nb weather to month data in [temp] format"'floure_months = []# Entire month of cloud cover data'" cloud_months = [['October'], ['November'], ['December']]"'for i in range(len(cloud_months) - 1):'" if temp > cloud_months[i]:# And cloud cover > 50% for month in cloud_months[i+1:]:'" floure_months.append(".join(process_cloud", "length"

Python 2 Ruby conversion based on few examples

"context": "Python: list[::-1] Ruby: list.reverse Python: list[1:4] Ruby: list[1..4] Python: print(\"Hello World\") Ruby: puts \"Hello World\" Python: fruits = [\"apple\",\"banana\",\"cherry\"] for x in fruits: print(x) Ruby: fruit = [\"apple\", \"banana\", \"cherry\"] each {|x| print x } Python: fruits = [\"apple\",\"banana\",\"cherry\"] a = list(fruits) print(a) a.reverse() print(a) Ruby:"

"text": " fruits = [\"apple\",\"banana\",\"cherry\"] a = Array(fruits) a.reverse a.slice(1..4) ruby: fruits = [\"apple\",\"banana\",\"cherry\"] [].slice! fruits ruby: fruits = \"ABCDEFGHIJKLMNOPQRSTUVWXYZ\".chars.map {|c| c = \"abcdefghijklmnopqrstuvwxyz\".sub!(/[a-z0-9]/,'') c.length } Content-Type: PHP header;