



PaLM能說、能看、能動、能理解的語言模型

Jerry老師

TensorFlow User Group Taipei(TFUGT)
亞太智能機器(APMIC) - NLU
Google機器學習開發專家(ML GDE)





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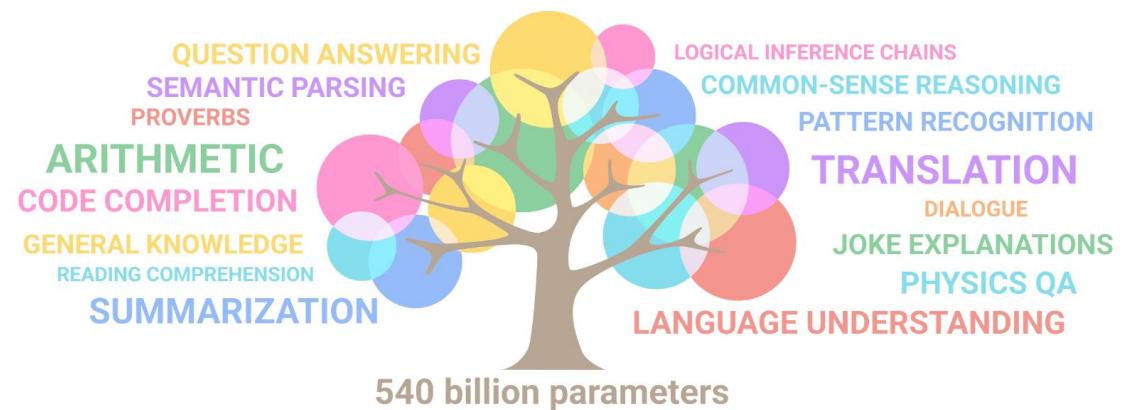




Pathways Language Model (PaLM)

- Pathways是Google在2021年推出的一種大型語言模型，它基於Transformer的decoder-only架構
- 有5400億個參數，超過GPT-3的1750億，是在TPU v4 Pod訓練而成
- Pathways注重多樣性和知識準確性，在自然語言處理等領域有著優秀的表現
- 他學習的任務超過100種以上舉例如下：

1. 問答 (question answering)
2. 語意解析 (semantic parsing)
3. 謠語 (proverbs)
4. 算術 (arithmetic)
5. 寫程式 (code completion)
6. 基本知識(general knowledge)
7. 閱讀理解(reading comprehension)
8. 邏輯推理(logical inference chains)
9. 常識推理(common sense reasoning)
10. 模式辨識(pattern recognition)
11. 翻譯(translation)
12. 對話(dialogue)
13. 笑話解釋(joke explanations)
14. 物理問答(physics QA)
15. 語言理解(language understanding)



<https://arxiv.org/pdf/2204.02311.pdf>
<https://arxiv.org/pdf/2203.12533.pdf>



Training cost

- Usually, language models require significant cost during pre-training.

Model	PaLM	GLaM , LaMDA	Gopher
TPU	Cloud TPU v4 Pods	TPU v3 Pod	TPU v3 Pod
Chips	6144 chips	256, 1024 chips	4096 chips
Daily Cost	~470,000 USD	~12,888, ~49,152USD	~196,608 USD

* TPU v4 3.22 USD

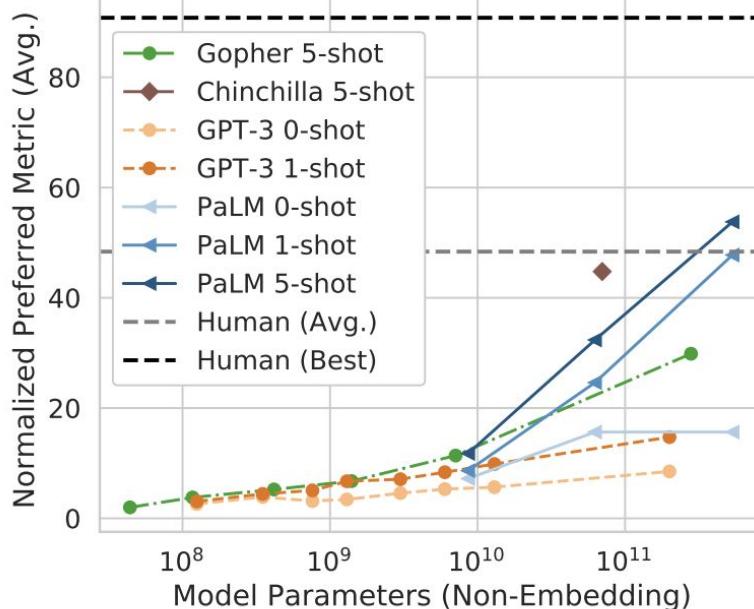
* TPU v3 1~2 USD



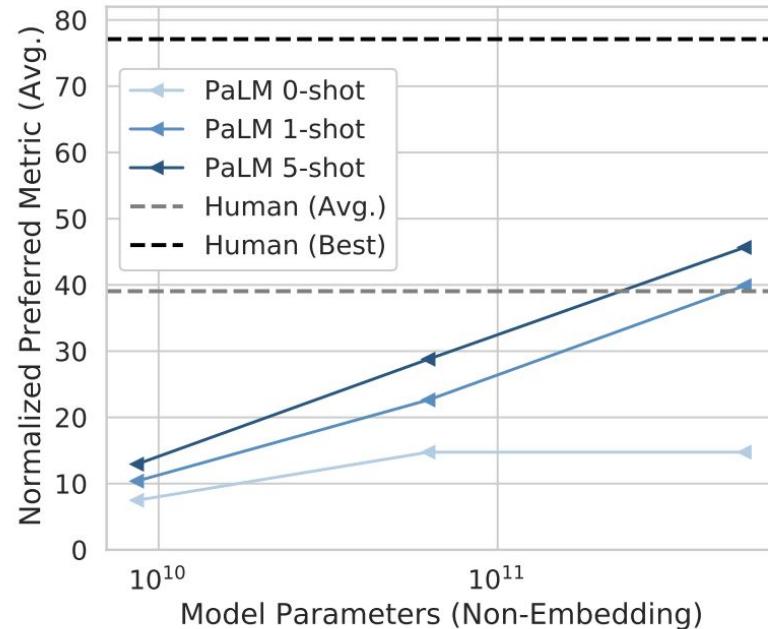
Task	0-shot		1-shot		Few-shot	
	Prior SOTA	PaLM 540B	Prior SOTA	PaLM 540B	Prior SOTA	PaLM 540B
TriviaQA (EM)	71.3 ^a	76.9	75.8 ^a	81.4	75.8 ^a (1)	81.4 (1)
Natural Questions (EM)	24.7 ^a	21.2	26.3 ^a	29.3	32.5 ^a (1)	39.6 (64)
Web Questions (EM)	19.0 ^a	10.6	25.3 ^b	22.6	41.1 ^b (64)	43.5 (64)
Lambada (EM)	77.7 ^f	77.9	80.9 ^a	81.8	87.2 ^c (15)	89.7 (8)
HellaSwag	80.8 ^f	83.4	80.2 ^c	83.6	82.4 ^c (20)	83.8 (5)
StoryCloze	83.2 ^b	84.6	84.7 ^b	86.1	87.7 ^b (70)	89.0 (5)
Winograd	88.3 ^b	90.1	89.7 ^b	87.5	88.6 ^a (2)	89.4 (5)
Winogrande	74.9 ^f	81.1	73.7 ^c	83.7	79.2 ^a (16)	85.1 (5)
Drop (F1)	57.3 ^a	69.4	57.8 ^a	70.8	58.6 ^a (2)	70.8 (1)
CoQA (F1)	81.5 ^b	77.6	84.0 ^b	79.9	85.0 ^b (5)	81.5 (5)
QuAC (F1)	41.5 ^b	45.2	43.4 ^b	47.7	44.3 ^b (5)	47.7 (1)
SQuADv2 (F1)	71.1 ^a	80.8	71.8 ^a	82.9	71.8 ^a (10)	83.3 (5)
SQuADv2 (EM)	64.7 ^a	75.5	66.5 ^a	78.7	67.0 ^a (10)	79.6 (5)
RACE-m	64.0 ^a	68.1	65.6 ^a	69.3	66.9 ^a † (8)	72.1 (8)
RACE-h	47.9 ^c	49.1	48.7 ^a	52.1	49.3 ^a † (2)	54.6 (5)



Performance on 58 Tasks



Performance on 150 Tasks



Sundar Pichai : we will be upgrading Bard to some of our more capable PaLM models
<https://www.nytimes.com/2023/03/31/podcasts/hard-fork-sundar.html?showTranscript=1>



Model+Technique	Accuracy
PaLM 540B+chain-of-thought+calculator	58%
PaLM 540B+chain-of-thought	54%
PaLM 540B w/o chain-of-thought	17%
PaLM 62B+chain-of-thought	33%
GPT-3+finetuning+chain-of-thought+calculator	34%
GPT-3+finetuning+chain-of-thought+calculator+verifier	55%

*GSM8K是由OpenAI發表的小學數學資料集，共有8.5K的資料，類似的還有MATH(高中數學)

*GPT-4在這個GSM8K資料集中表現超過80%準確率

*截止目前MATH僅有GPT-4做衡量，約42.5%準確率



Standard Prompting

Model Input

- Q: 傑有 5 個網球。他又買了 2 罐網球。每個罐頭有 3 個網球。他現在有多少個網球？
- A: 答案是11顆
- Q: 自助餐廳有 23 個蘋果。如果他們用 20 個做午飯，又買了 6 個，他們有多少個蘋果？

Model Output

- A: 答案是27個



Chain of Thought

Model Input

- Q: 傑有 5 個網球。他又買了 2 罐網球。每個罐頭有 3 個網球。他現在有多少個網球？
- A: 羅傑原本有 5 個球開始。2罐裡面有3個網球，總共6個網球。 $5+6=11$ 。答案是 11
- Q: 自助餐廳有 23 個蘋果。如果他們用 20 個做午餐，又買了 6 個，他們有多少個蘋果？

Model Output

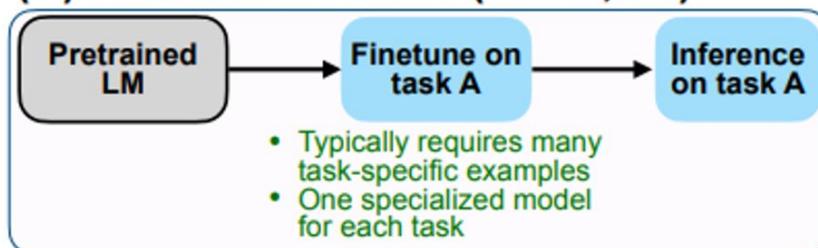
- A: 自助餐廳最初有 23 個蘋果。他們用 20 來做午餐。所以他們有 $23-20 = 3$ 。他們又買了 6 個蘋果。所以他們有 $3+6=9$ 。答案是 9



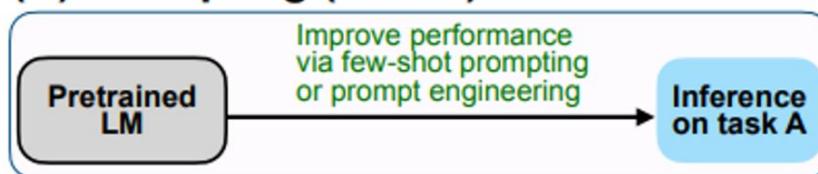
Instruction Tuning

Google

(A) Pretrain–finetune (BERT, T5)



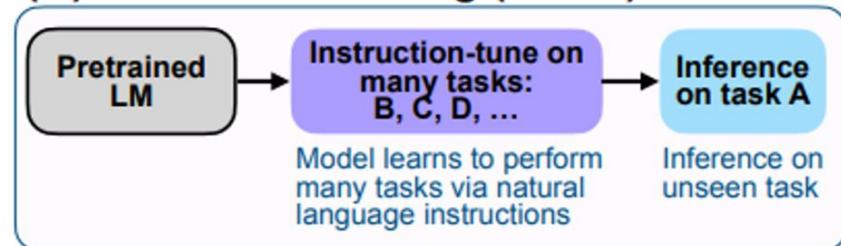
(B) Prompting (GPT-3)



OpenAI

Google

(C) Instruction tuning (FLAN)



<https://arxiv.org/pdf/2109.01652.pdf>

<https://www.youtube.com/watch?v=Q1KVJNwAMjk>



Translation

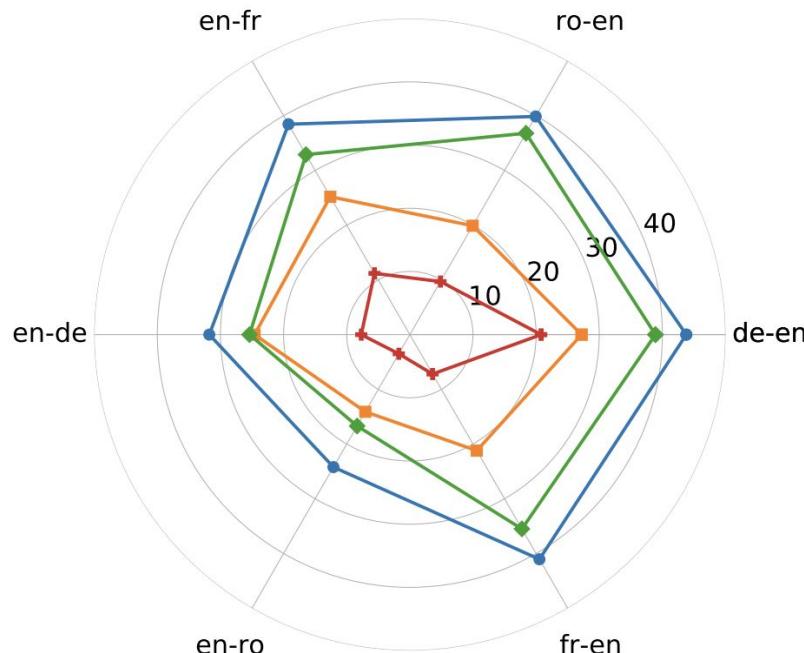
Src	Tgt	0-shot		1-shot		Few-shot		Supervised	
		Prior SOTA	PaLM 540B	Prior SOTA	PaLM 540B	Prior SOTA	PaLM 540B	Finetuned SOTA	
en	fr	32.9 ^a	38.5	28.3 ^b	37.5	33.9 ^a (9)	44.0	<u>45.6</u> ^c	
en	de	25.4 ^a	31.8	26.2 ^b	31.8	26.8 ^a (11)	37.4	<u>41.2</u> ^d	
en	ro	16.7 ^a	24.2	20.6 ^b	28.2	20.5 ^a (9)	28.7	<u>33.4</u> ^e	
fr	en	35.5 ^a	41.1	33.7 ^b	37.4	38.0 ^a (9)	42.8	<u>45.4</u> ^f	
de	en	38.9 ^a	43.8	30.4 ^b	43.9	40.6 ^a (11)	47.5	41.2 ^g	
ro	en	36.8 ^a	39.9	38.6 ^b	42.1	37.3 ^a (9)	43.8	39.1 ^h	



Translation

0-shot BLEU Scores for Large LMs

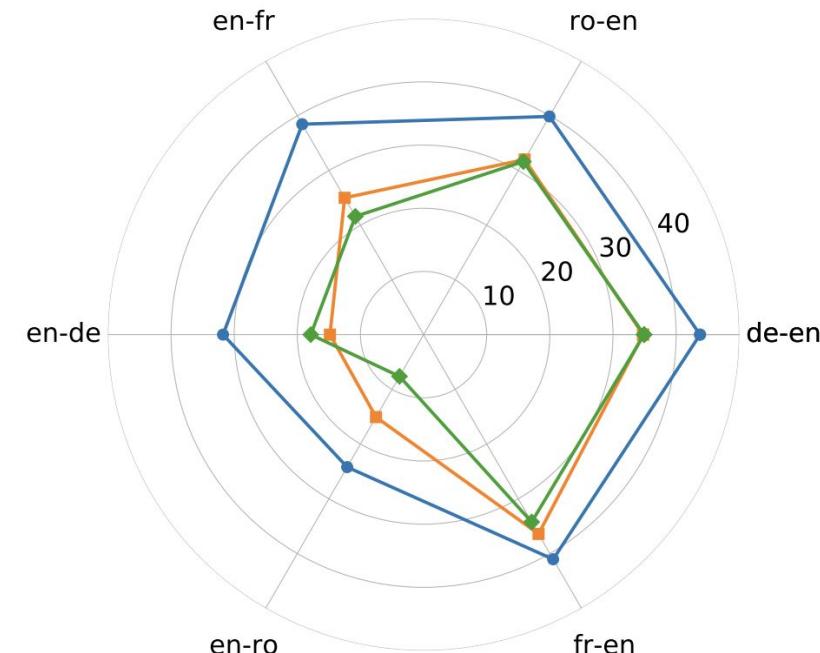
—●— 540b —■— GPT-3 —◆— FLAN —+— LaMDA



(a)

0-shot BLEU Scores for PaLM Model Scales

—●— 540b —■— 62b —◆— 8b



(b)



*MMLU, BBH: Multi-task Language Understanding

*TyDiQA: Typologically Diverse Question Answering (內含11種語言以上的多樣問答)

*MGSM: Multilingual Grade School Math (多語言的小學數學)

*T5: <https://youtu.be/vvL3lyH6WeU>

*Flan: Fine-tuned LAnguage Net (FLAN)



Params	Model	Norm. avg.	MMLU		BBH		TyDiQA Direct	MGSM Direct
			Direct	CoT	Direct	CoT		
80M	T5-Small	-9.2	26.7	5.6	27.0	7.2	0.0	0.4
	Flan-T5-Small	-3.1 (+6.1)	28.7	12.1	29.1	19.2	1.1	0.2
250M	T5-Base	-5.1	25.7	14.5	27.8	14.6	0.0	0.5
	Flan-T5-Base	6.5 (+11.6)	35.9	33.7	31.3	27.9	4.1	0.4
780M	T5-Large	-5.0	25.1	15.0	27.7	16.1	0.0	0.3
	Flan-T5-Large	13.8 (+18.8)	45.1	40.5	37.5	31.5	12.3	0.7
3B	T5-XL	-4.1	25.7	14.5	27.4	19.2	0.0	0.8
	Flan-T5-XL	19.1 (+23.2)	52.4	45.5	41.0	35.2	16.6	1.9
11B	T5-XXL	-2.9	25.9	18.7	29.5	19.3	0.0	1.0
	Flan-T5-XXL	23.7 (+26.6)	55.1	48.6	45.3	41.4	19.0	4.9
8B	PaLM	6.4	24.3	24.1	30.8	30.1	25.0	3.4
	Flan-PaLM	21.9 (+15.5)	49.3	41.3	36.4	31.1	47.5	8.2
62B	PaLM	28.4	55.1	49.0	37.4	43.0	40.5	18.2
	Flan-PaLM	38.8 (+10.4)	59.6	56.9	47.5	44.9	58.7	28.5
540B	PaLM	49.1	71.3	62.9	49.1	63.7	52.9	45.9
	Flan-PaLM	58.4 (+9.3)	73.5	70.9	57.9	66.3	67.8	57.0
62B	cont-PaLM	38.1	61.2	57.6	41.7	53.1	45.7	32.0
	Flan-cont-PaLM	46.7 (+8.6)	66.1	62.0	51.0	53.3	62.7	40.3
540B	U-PaLM	50.2	71.5	64.0	49.2	62.4	54.6	49.9
	Flan-U-PaLM	59.1 (+8.9)	74.1	69.8	59.3	64.9	68.3	60.4

Table 5: Instruction finetuning (Flan) improves performance on top of other continued pre-training methods. The benchmark suites are MMLU (57 tasks), BBH (23 tasks), TyDiQA (8 languages), and MGSM (10 languages). The evaluation metric on all four benchmark suites is few-shot prompted accuracy (exact match), where we take an unweighted average over all tasks. As an aggregate metric we report the normalized average of MMLU-direct, MMLU-CoT, BBH-direct, BBH-CoT, TyDiQA, and MGSM. These evaluation benchmarks are held-out (not included in the finetuning data). Results for each task in each benchmark are given in Appendix D.



Multi-task Language Understanding on MMLU

[Leaderboard](#)[Dataset](#)

View

Average (%)

by

Date

▼

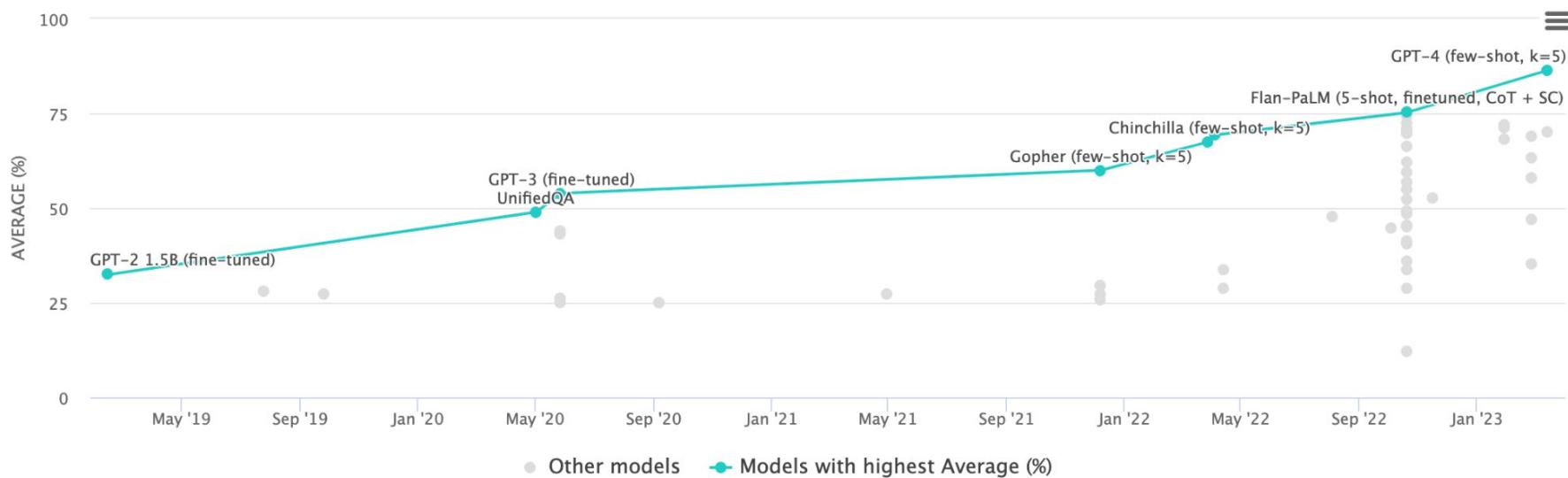




Image data

Text data





具身化/體化

PaLM-E: An Embodied Multimodal Language Model

Danny Driess^{1,2} Fei Xia¹ Mehdi S. M. Sajjadi³ Corey Lynch¹ Aakanksha Chowdhery³

Brian Ichter¹ Ayzaan Wahid¹ Jonathan Tompson¹ Quan Vuong¹ Tianhe Yu¹ Wenlong Huang¹

Yevgen Chebotar¹ Pierre Sermanet¹ Daniel Duckworth³ Sergey Levine¹ Vincent Vanhoucke¹

Karol Hausman¹ Marc Toussaint² Klaus Greff³ Andy Zeng¹ Igor Mordatch³ Pete Florence¹



Robotics at Google



TECHNISCHE
UNIVERSITÄT
BERLIN

³Google Research

*超過20位作者



Mobile Manipulation



Human: Bring me the rice chips from the drawer. Robot: 1. Go to the drawers, 2. Open top drawer. I see . 3. Pick the green rice chip bag from the drawer and place it on the counter.

Visual Q&A, Captioning ...



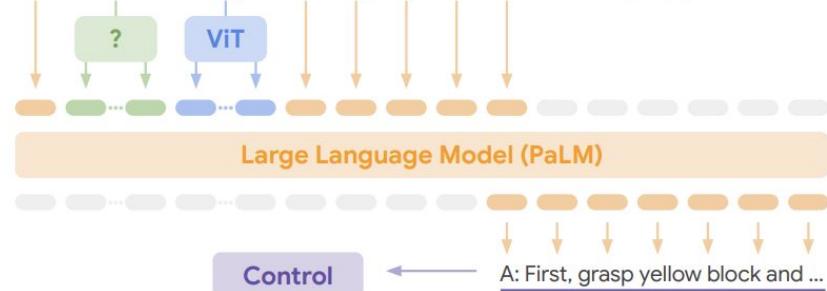
Given . Q: What's in the image? Answer in emojis.
A:



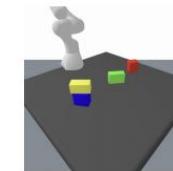
Describe the following :
A dog jumping over a hurdle at a dog show.

PaLM-E: An Embodied Multimodal Language Model

Given **<emb>** ... **** Q: How to grasp blue block? A: First, grasp yellow block



Task and Motion Planning



Given **<emb>** Q: How to grasp blue block?
A: First grasp yellow block and place it on the table, then grasp the blue block.

Tabletop Manipulation



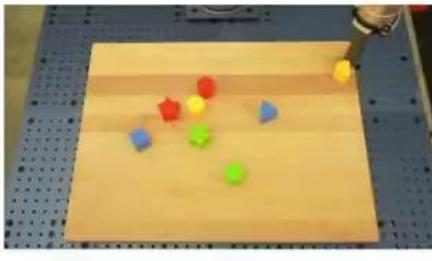
Given **** Task: Sort colors into corners.
Step 1. Push the green star to the bottom left.
Step 2. Push the green circle to the green star.

Language Only Tasks

Here is a Haiku about embodied language models:
Embodied language models are the future of natural language

Q: Miami Beach borders which ocean? A: Atlantic.
Q: What is 372×18 ? A: 6696.
Language models trained on robot sensor data can be used to guide a robot's actions.

Given



. Q: How to sort the blocks by colors into the corners? A:

4x speed



Mobile Manipulation Task: Bring me the rice chips from the drawer.

Visually-conditioned Jokes + Few-shot prompting



I see (image omitted). Description: A cow sitting on a rug. Joke: Why is the cow sitting on a rug? Because it wants to be a cow-ch! ... I see . Description: a donkey is carrying a dog, cat, and rooster. Joke: what do you call a donkey with a rooster on his back. A rooster booster.

Zero-shot Multimodal Chain-of-Thought



Given . Q: Can I go down this street on a bicycle, yes or no? A: Let's think step by step. 1. do not enter. 2. except bicycles. 3. do not entry except bicycles. 4. yes.



Given . Q: How many championship rings did the player on the left win in his career A: Let's think step by step. 1. kobe bryant is on the left. 2. kobe bryant has won 5 championship rings.



Given . Q: Who are the two teams playing in this photo, and which was the last to win a championship, and which year did they win, and who was their star player that year? A: Let's think step by step. 1. team in white is new york knick. 2. team in green is boston celtic. 3. last to win championship was boston celtic. 4. year was 2008. 5. star player was paul pierce. 6. i am not sure if this is correct. i am not basketball fan. i just google it.

Robot Visual Perception, Dialogue, and Planning



Robot: I am a robot operating in a kitchen. Given , what do I see? a bowl of eggs, a bowl of flour, and a bowl of sugar.. and a spatula.. and a spoon.. and a bag of flour.. and a bag of sugar. When a human asks me to do a task, I will respond with the sequence of actions I would do to accomplish the task with only the items I see. Human: Use all of the ingredients you see to make a cake batter. 1. crack egg. 2. put egg in bowl. 3. put flour in bowl. 4. put sugar in bowl. 5. mix. 6. put in pan. 7. bake. 8. eat. 9. clean up.

Physical Prediction



Given . Q: What will the robot do next? A: fall.

Spatial Grounding



Given . Q: What flavor is the doughnut on the right? Strawberry.. Q: What flavor is the doughnut on the left? A blueberry.

Robot Initiative



Given . Q: If a robot wanted to be useful here, what steps should it take? A: clean table..pick up trash.. pick up chairs.. wipe chairs.. put chairs down.

Zero-shot: Multi-image Relationships



Q: Where is <img1> in this scene <img2>? A: a stove top with a pot on it.



Photo 1: <img1>. Photo 2: <img2>. Q: What is in Photo 1 but NOT in Photo 2? A: sunglasses.
Photo 1: <img1>. Photo 2: <img2>. Q: What is in Photo 1 but NOT in Photo 2? A: Let's think step by step and explain. Photo 1 has sunglasses on top of folded clothes. Photo 2 does not have sunglasses on top of folded clothes. Therefore, sunglasses are in Photo 1 but not in Photo 2.

End-to-End Egocentric Q&A, Dialogue



Photo 1, at 10:30 am: <img1>. Photo 2, at 12:45 pm: <img2>. Photo 3, at 3:45 pm: <img3>. Q: I forget, what did I have for lunch, and what time was it? A: Let's think step by step. 1. you had a sandwich for lunch. 2. it was 12:45 pm.

OCR-free Math Reasoning



Given . Q: I am getting just two custom pizza for me and my friend. How much should I pay in total? A: Let's think step by step. 1st step: 2 custom pizzas. 2nd step: 2 x \$9.99. 3rd step: \$19.98.



Flan-T5

```
>>> from transformers import AutoModelForSeq2SeqLM, AutoTokenizer  
  
>>> model = AutoModelForSeq2SeqLM.from_pretrained("google/flan-t5-small")  
>>> tokenizer = AutoTokenizer.from_pretrained("google/flan-t5-small")  
  
>>> inputs = tokenizer("A step by step recipe to make bolognese pasta:", return_tensors="pt")  
>>> outputs = model.generate(**inputs)  
>>> print(tokenizer.batch_decode(outputs, skip_special_tokens=True))  
['Pour a cup of bolognese into a large bowl and add the pasta']
```

- [google/flan-t5-small](#)
- [google/flan-t5-base](#)
- [google/flan-t5-large](#)
- [google/flan-t5-xl](#) *Size 30GB
- [google/flan-t5-xxl](#). *Size 200GB



T5X



T5X is a modular, composable, research-friendly framework for high-performance, configurable, self-service training, evaluation, and inference of sequence models (starting with language) at many scales.

It is essentially a new and improved implementation of the [T5 codebase](#) (based on [Mesh TensorFlow](#)) in [JAX](#) and [Flax](#). To learn more, see the [T5X Paper](#).

Below is a quick start guide for training models with TPUs on Google Cloud. For additional tutorials and background, see the [complete documentation](#).

Quickstart (Recommended)

T5X can be run with [XManager](#) on [Vertex AI](#). Vertex AI is a platform for training that creates TPU instances and runs code on the TPUs. Vertex AI will also shut down the TPUs when the jobs terminate. This is significantly easier than managing GCE VMs and TPU VM instances.

1. Follow the pre-requisites and directions to install [XManager](#).
2. Request TPU quota as required. GCP projects come with 8 cores by default, which is enough to run one training experiment on a single TPU host. If you want to run multi-host training or run multiple trials in parallel, you will need more quota. Navigate to [Quotas](#).



The Flan Collection

[Setup](#) | [Mixtures](#) | [Run](#) | [Flan Collection Paper](#) | [Citation](#)

The Flan Collection of datasets and data augmentation methods for instruction tuning is generated using the code in this repository. The Flan Collection compiles datasets from Flan 2021, P3, [Super-Natural Instructions](#), along with dozens more datasets into one place, formats them into a mix of zero-shot, few-shot and chain-of-thought templates, then mixes these in proportions that are found to achieve strong results on held-out evaluation benchmarks, as reported for Flan-T5 and Flan-PaLM in the [Scaling Flan paper](#) and [Flan Collection paper](#).

Setup

```
pip install --upgrade pip
pip install -r flan/v2/requirements.txt
```



MNBVC(Massive Never-ending BT Vast Chinese corpus)

Datasets: liwu/MNBVC like 35

Tasks: Text Generation Fill-Mask Sub-tasks: language-modeling masked-language-modeling Languages: Chinese Multilinguality: monolingual

Size Categories: unknown Language Creators: other Annotations Creators: other Source Datasets: original License: mit

Dataset card Files and versions Community

Dataset Preview API

Go to dataset viewer

Subset

gov

text (string)	meta (string)
"新华社北京11月5日电关于《中共中央关于坚持和完善中国特色社会主义制度推进国家治理体系和治理能力现代化若干重大问题的决定》的说明习...	{"文件编号": 1, "文件目录": "十九大时间/十九届中央全会", "文件名": "习近平_关于十九届四中全会《决定》的说明.txt"}
"新华社北京11月5日电中共中央关于坚持和完善中国特色社会主义制度推进国家治理体系和治理能力现代化若干重大问题的决定(2019年10月31...	{"文件编号": 2, "文件目录": "十九大时间/十九届中央全会", "文件名": "中共中央关于坚持和完善中国特色社会主义制度推进国家治理...
"新华社北京10月31日电中国共产党第十九届中央委员会第四次全体会议公报(2019年10月31日中国共产党第十九届中央委员会第四次全体会议...	{"文件编号": 3, "文件目录": "十九大时间/十九届中央全会", "文件名": "中国共产党第十九届中央委员会第四次全体会议公报.txt"}
"新华社北京1月15日电中国共产党第十九届中央纪律检查委员会第四次全体会议公报(2020年1月15日中国共产党第十九届中央纪律检查委员会第...	{"文件编号": 4, "文件目录": "十九大时间/十九届中央纪委全会", "文件名": "中国共产党第十九届中央纪律检查委员会第四次全体会议公...
"新华社北京1月24日电中国共产党第十九届中央纪律检查委员会第五次全体会议公报(2021年1月24日中国共产党第十九届中央纪律检查委员会第...	{"文件编号": 5, "文件目录": "十九大时间/十九届中央纪委全会", "文件名": "中国共产党第十九届中央纪律检查委员会第五次全体会议公...

Downloads last month

80

Use in dataset library

Edit dataset card

Train in AutoTrain

Evaluate models

HF Leaderboard

:

Homepage:
mnbvc.253874.net

Repository:
github.com

Paper:
N/A

Leaderboard:
N/A

Point of Contact:
N/A

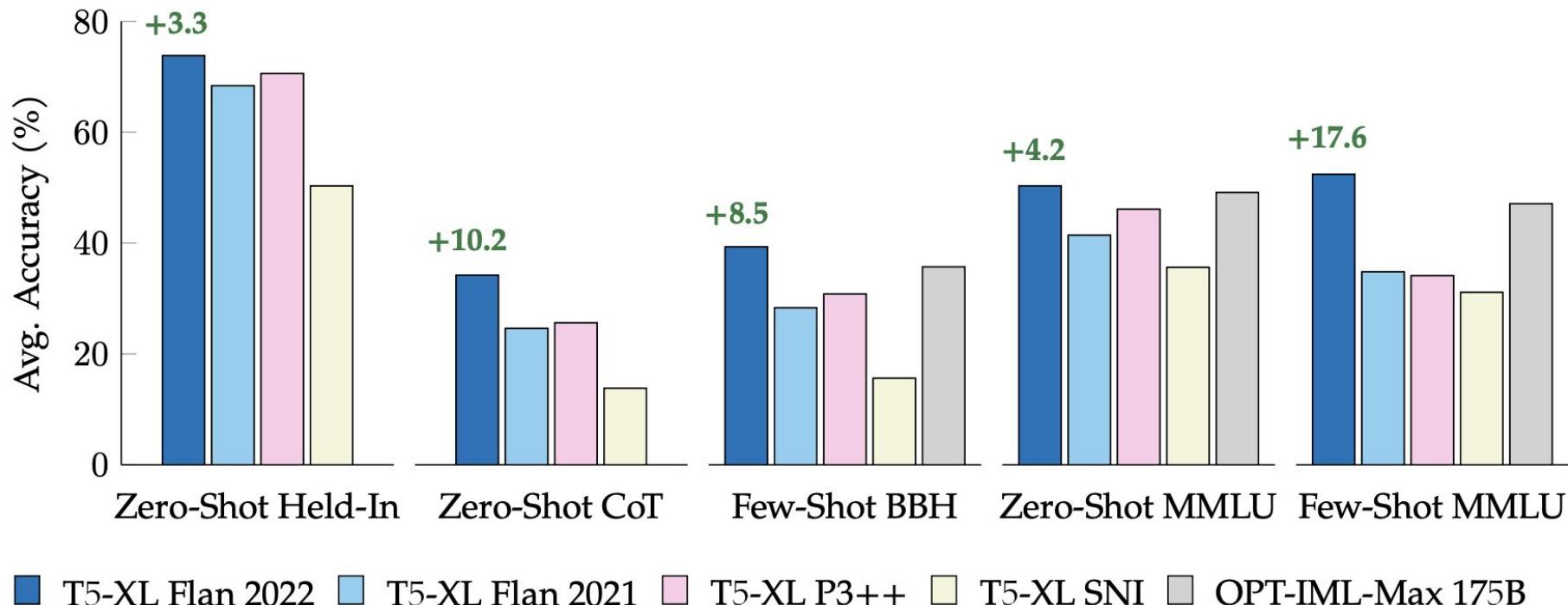
*Size 2TB

<https://huggingface.co/datasets/liwu/MNBVC>

<https://github.com/esbatmop/MNBVC>



Flan 2022~2023





Release	Collection	Model	Model Details			Data Collection & Training Details			
			Base	Size	Public?	Prompt Types	Tasks in Flan	# Exs	Methods
2020 05	UnifiedQA	UnifiedQA	RoBERTa	110-340M	P	ZS	46 / 46	750k	
2021 04	CrossFit	BART-CrossFit	BART	140M	NP	FS	115 / 159	71.M	
2021 04	Natural Inst v1.0	Gen. BART	BART	140M	NP	ZS / FS	61 / 61	620k	+ Detailed k-shot Prompts
2021 09	Flan 2021	Flan-LaMDA	LaMDA	137B	NP	ZS / FS	62 / 62	4.4M	+ Template Variety
2021 10	P3	T0, T0+, T0++	T5-LM	3-11B	P	ZS	62 / 62	12M	+ Template Variety + Input Inversion
2021 10	MetalCL	MetalCL	GPT-2	770M	P	FS	100 / 142	3.5M	+ Input Inversion + Noisy Channel Opt
2021 11	ExMix	ExT5	T5	220M-11B	NP	ZS	72 / 107	500k	+ With Pretraining
2022 04	Super-Natural Inst.	TK-Instruct	T5-LM, mT5	11-13B	P	ZS / FS	1556 / 1613	5M	+ Detailed k-shot Prompts + Multilingual
2022 10	GLM	GLM-130B	GLM	130B	P	FS	65 / 77	12M	+ With Pretraining + Bilingual (en, zh-cn)
2022 11	xP3	BLOOMz, mT0	BLOOM, mT5	13-176B	P	ZS	53 / 71	81M	+ Massively Multilingual
2022 12	Unnatural Inst. [†]	T5-LM-Unnat. Inst.	T5-LM	11B	NP	ZS	~20 / 117	64k	+ Synthetic Data
2022 12	Self-Instruct [†]	GPT-3 Self Inst.	GPT-3	175B	NP	ZS	Unknown	82k	+ Synthetic Data + Knowledge Distillation
2022 12	OPT-IML Bench [†]	OPT-IML	OPT	30-175B	P	ZS + FS CoT	~2067 / 2207	18M	+ Template Variety + Input Inversion + Multilingual
2022 10	Flan 2022 (ours)	Flan-T5, Flan-PaLM	T5-LM, PaLM	10M-540B	P / NP	ZS + FS CoT	1836	15M	+ Template Variety + Input Inversion + Multilingual



Google, DeepMind VS Microsoft ,OpenAI 的歷史故事

- June 2017, DeepMind proposed the concept of RLHF, 圍繞在遊戲跟機器人的模擬

June 2017, Google released Transformer, attention is all you need 之後語言模型開始快速發展

June 18, OpenAI released decoder-only GPT-1 (110 million parameters), 第一版GPT出爐

October 2018, Google released encoder-only BERT (max 350 million parameters), 可以微調下游任務，這個模型流行一段時間

February 19, OpenAI announced GPT-2 up to 1.5B params. GPT2出爐，<https://github.com/openai/gpt-2>

September 19, OpenAI used GPT2 (0.77B params) to use RLHF to finetune. 首次採用Google的RLHF方法微調GPT2模型

October 2019, Google released encoder-decoder T5 with up to 11 billion params. Compatible with the tasks for BERT and GPT.

T5問世，採用 encoder-decode方式運作

May 2020, OpenAI published the GPT-3 paper (175B params), prompt engineerin正式展開

(e.g. the famous “Let's think step by step” later discovered 2022), semi-open through API.

September 2020, OpenAI used GPT3 (13B params) 採用 RLHF to summarize long texts (ChatGPT uses RLHF), and also used PPO.

October 21, Google published FLAN (Finetuned Language Net) 137B parameters, decoder-only, 正式提出instruction tuning

November 21, DeepMind published a Gopher paper (280B params), 新模型Gopher以RLHF加入LLM戰場

January 22, Google published the LaMDA paper (137B params, decoder-only), 有上新聞的模型

March 22, OpenAI released InstructGPT (175B parameters), instruction finetune and RLHF were used 沒人注意到他（因為他沒弄成ChatGPT）

March 22, DeepMind published Chinchilla (70 billion parameters). 新生成模型出爐，擅長生成資料，僅部分引人注意

- April 22, Google released flagship PaLM (540B parameters, decoder-only) on Pathways system, also mentioned "Chain of Thought"推理概念

September 22, DeepMind released Sparrow (70 billion), applied RLHF and added Retrieval (Google Search).

December 22, OpenAI released ChatGPT product, 聲稱使用InstructGPT，並開始上線提供服務



Reference

- https://huggingface.co/docs/transformers/model_doc/flan-t5
- <https://www.youtube.com/watch?v=6W-HMbqRJRM>
- <https://arxiv.org/pdf/2204.02311.pdf>
- <https://arxiv.org/pdf/2203.12533.pdf>
- <https://palm-e.github.io/assets/palm-e.pdf>
- <https://arxiv.org/pdf/2301.13688.pdf>
- <https://github.com/google-research/t5x>
- <https://ai.googleblog.com/2021/10/introducing-flan-more-generalizable.html>
- <https://github.com/google-research/t5x>
- [\(SC\)](https://arxiv.org/pdf/2203.11171.pdf)
- [\(MT5\)](https://youtu.be/vvL3lyH6WeU)
- google/flan-t5-small
- google/flan-t5-base
- google/flan-t5-large
- google/flan-t5-xl
- google/flan-t5-xxl
- <https://arxiv.org/pdf/2303.04715.pdf>



Thank you!

JerryWu

APMIC & Google Developer Expert

jerry@ap-mic.com

@JerryWu

