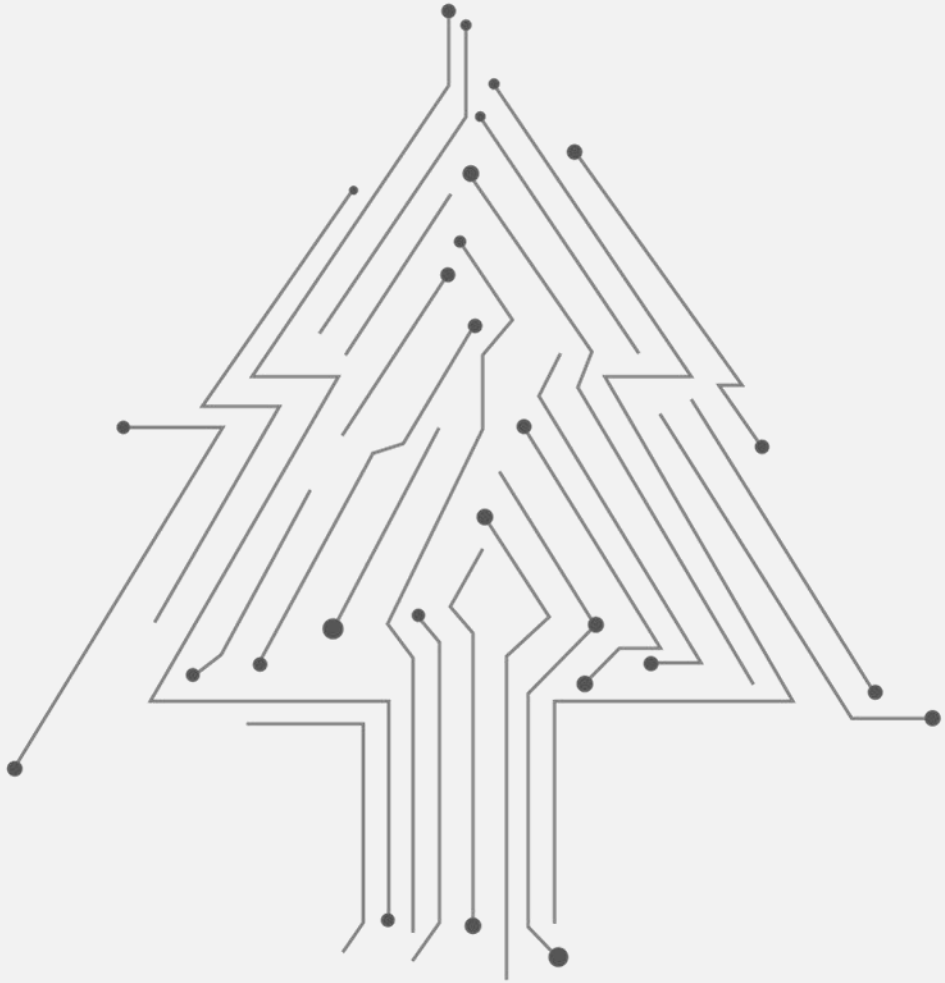
2022

深度学习--科技资讯

人工智能 知识图谱 自然语言处理 图像变幻

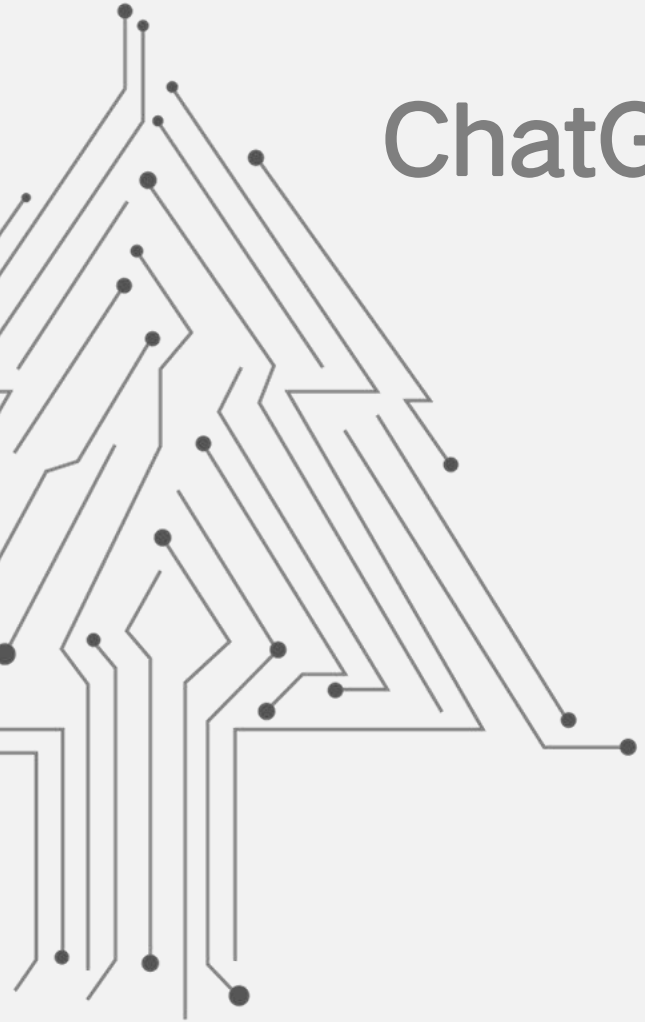


ChatGPT

当每个人都在苦苦等待 GPT-4 发布时，OpenAI 却一直迟迟没有消息，仍在修复其前身。这家总部位于旧金山的公司于昨日发布了一个名为 ChatGPT 的新模型，它是 GPT-3 的衍生产品，它以对话的方式进行交互。

项目地址：https://chat.openai.com/chat

【 加入标题描述 】



ChatGPT

你好

你好！我是一名人工智能助手，有什么可以帮助你的吗?

ChatGPT 是什么

ChatGPT 是一种由 OpenAI 开发的自然语言处理模型。它是基于 GPT（Generative Pre-training Transformer）的变体，旨在更好地处理聊天机器人和对话系统中的自然语言生成任务。GPT 是一种语言模型，可以根据输入的文本预测下一个单词，并且通过预训练语料库学习大量的自然语言知识。ChatGPT 在此基础上进行了改进，使其更适用于聊天机器人和对话系统。它可以通过与用户交互来生成自然语言响应，并可以使用上下文来提供更准确的回复。

人只有一个心脏能活吗

是的，人类通常只有一个心脏。心脏是人体内重要的脏器之一，负责输送血液并提供氧气和营养。心脏有两个主要部分，即左心室和右心室。左心室负责将氧合的血液输送到身体的各个部位，而右心室则负责将低氧血液输送到肺部进行氧合。

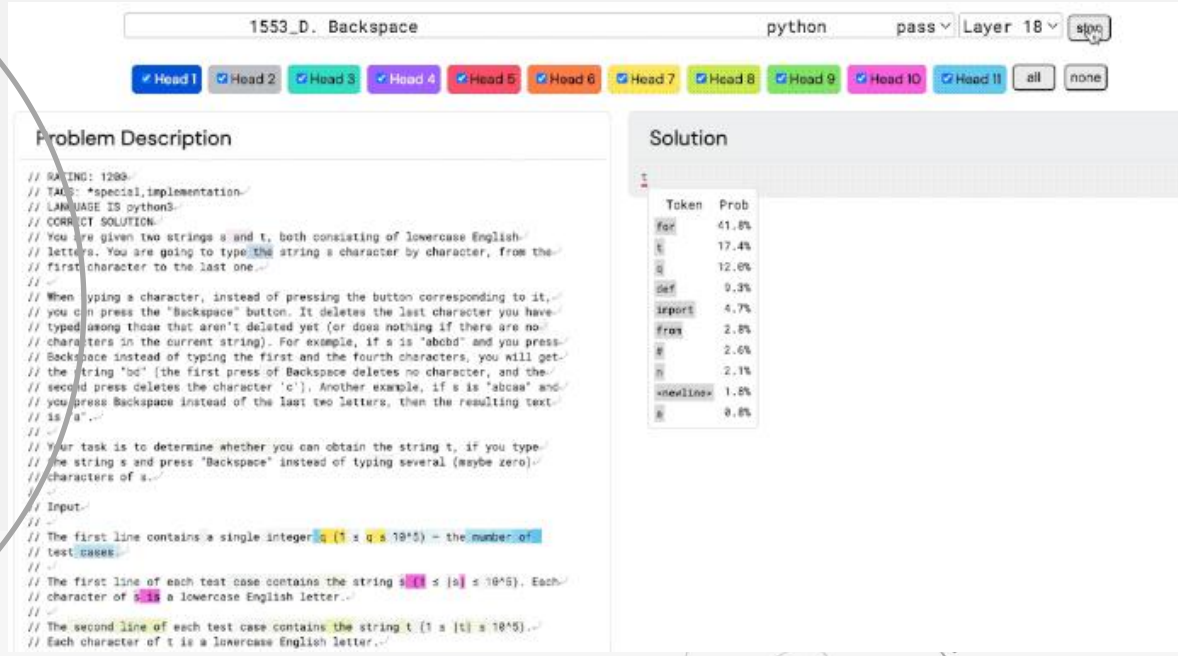
尽管人类通常只有一个心脏，但在某些情况下，人们可能会接受心脏移植手术。心脏移植手术是指将一个健康的心脏移植到患有心脏疾病或损坏的心脏患者身上。这种手术可以改善患者的生活质量，但也有一定的风险。

AlphaCode

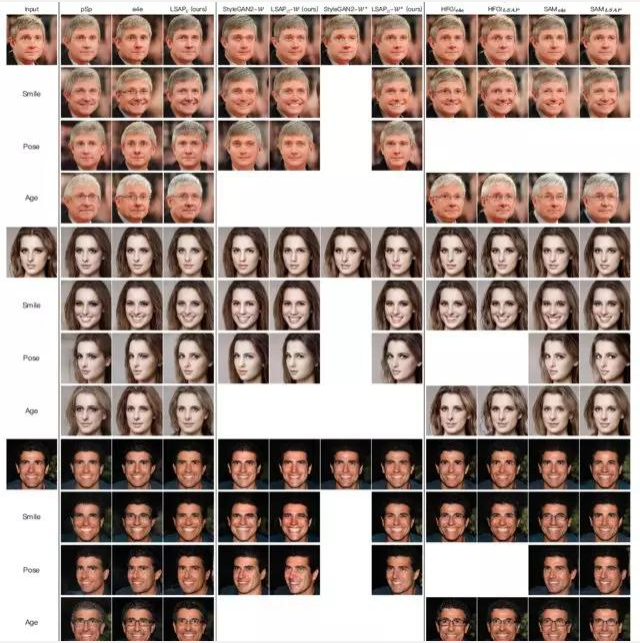
- AlphaCode 是 DeepMind 发布的 AI 编程系统
- 在最新更新的论文中，DeepMind 首次透露了 AlphaCode 的“一次通过率”有 66%
- 早在之前，AlphaCode 就参加过 Codeforces 所举办的 10 场编程比赛，并且成绩超过一半的程序员

官网：https://alphacode.deepmind.com

AlphaCode


1553_D. Backspace
python
pass
Layer 18
stop
Head 1
Head 2
Head 3
Head 4
Head 5
Head 6
Head 7
Head 8
Head 9
Head 10
Head 11
all
none
Problem Description
// RATING: 1200
// TAGS: *special,implementation
// LANGUAGE IS python3
// CORRECT SOLUTION
// You are given two strings s and t, both consisting of lowercase English
// letters. You are going to type the string s character by character, from the
// first character to the last one.
//
// When typing a character, instead of pressing the button corresponding to it,
// you can press the "Backspace" button. It deletes the last character you have
// typed among those that aren't deleted yet (or does nothing if there are no
// characters in the current string). For example, if s is "abcbd" and you press
// Backspace instead of typing the first and the fourth characters, you will get
// the string "bd" (the first press of Backspace deletes no character, and the
// second press deletes the character 'c'). Another example, if s is "abcaa" and
// you press Backspace instead of the last two letters, then the resulting text
// is "a".
//
// Your task is to determine whether you can obtain the string t, if you type
// the string s and press "Backspace" instead of typing several (maybe zero)
// characters of s.
//
// Input
//
// The first line contains a single integer q (1 ≤ q ≤ 10^5) — the number of
// test cases.
//
// The first line of each test case contains the string s (1 ≤ |s| ≤ 10^5). Each
// character of s is a lowercase English letter.
//
// The second line of each test case contains the string t (1 ≤ |t| ≤ 10^5).
// Each character of t is a lowercase English letter.
Solution
t
Token
Prob
for
41.8%
t
17.4%
q
12.0%
def
9.3%
import
4.7%
from
2.8%
#
2.6%
n
2.1%
«newline»
1.8%
a
0.8%

迪士尼发布的可用于真实场景的、全自动化的re-age模型FRAN，图像变化完全可控，正式宣告电影中靠化妆师改变演员年龄视觉效果的技术落幕



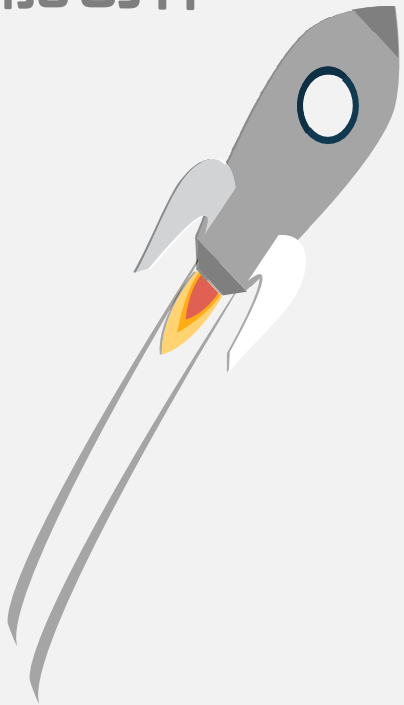
介绍文章 https://arstechnica.com/information-technology/2022/11/disney-creates-ai-fountain-of-youth-for-actors/

FRAN

Deep Learning for Facial Re-Aging

input video | de-aged with DLFS [He et al. 2021] | de-aged with HRFAE [Yao et al. 2020] | de-aged with SAM [Alaluf et al. 2021]

当够了画家、剪辑和在线客服，人工智能的接下来要征服的，是编剧。DeepMind推出的AI写作模型Dramatron，只需一句故事梗概，就能创作万字剧本！



论文地址：https://arxiv.org/pdf/2209.14958.pdf

Dramatron

Dramatron

First, you'll need to enter a log line - a few-sentence summary of the action. Log lines typically contain the setting, protagonist, antagonist, a conflict or goal, and sometimes the inciting incident.

After very complex jewelry heist goes terribly wrong, the surviving criminals begin to suspect that one of them is a police informant

Continue

新智元

Now Dramatron can generate a title for your script based on the log line. You can generate new titles until you get one you like, or edit the title directly once generated.

Generate title

The Heist's Downfall

Continue

新智元

Characters

John Murdock: John Murdock is the leader of the jewel thieves. A smart and experienced criminal, he is the one who came up with the heist plan.

新智元

Now generate a sequence of scenes (a plot synopsis) based on the log line and the characters.

Generate scenes

Place: A jewelry store.
Plot element: The Ordinary World.
Beat: John and his team of criminals are planning to rob a jewelry store.

Place: The jewelry store.
Plot element: The Call to Adventure.
Beat: The heist goes wrong and the police are called. The criminals are forced to take hostages and barricade themselves in the store.

Place: The jewelry store.
Plot element: The Ordeal.
Beat: As the standoff with the police continues, the criminals start to suspect that one of them is a police informant. Tempers flare and there is a shootout. Only John and two other criminals survive.

Place: A safe house.
Plot element: The Return.
Beat: John and the two other criminals return to their safe house. They try to figure out who the police informant is, but they are unsuccessful. John decides to kill the two other criminals, just to be safe.

新智元

Now generate a detailed description of the setting for each scene.

Generate settings

Place: A jewelry store
The jewelry store is a small, cramped space. The shelves are full of glittering goods and the air smells of expensive perfume. There is a security guard at the door and cameras in the corners.

Place: The jewelry store
The jewelry store is a small, cramped space. The shelves are lined with glass cases full of glittering necklaces, bracelets, and rings. The air is thick with the smell of expensive perfume.

Place: The jewelry store
The jewelry store is a small, cramped place. The walls are lined with cases full of glittering jewels. There is a small desk in the back where the owner sits, and the door is locked from the inside.

Place: A safe house
The safe house is a small, cramped apartment. It is situated in a shady part of town, and the windows are covered with sheets. There is a table in the center of the room, and around it are five chairs. On the table is a map of the city, and a pile of money.

新智元

Dramatron

Finally, you're ready to generate the dialogue for each scene, based on the log line, characters, scene description, and setting.

Generate for...

Scene 1 | Scene 2 | Scene 3 | Scene 4

JOHN

Alright, here's the plan. We'll take the back entrance, disable the alarm, and then start loading the jewelry into the van.

SECURITY GUARD

Hey! You can't go in there!

JOHN

We have a gun!

SECURITY GUARD

Don't shoot! I'm unarmed!

JOHN

Generate for...

Scene 1 | Scene 2 | Scene 3 | Scene 4

JOHN

What the hell happened?

BERT

I don't know, the alarm must have gone off.

JOHN

Damn it!Alright, everyone stay calm. We'll figure this out.

BILL

What are we going to do? The police are on their way!

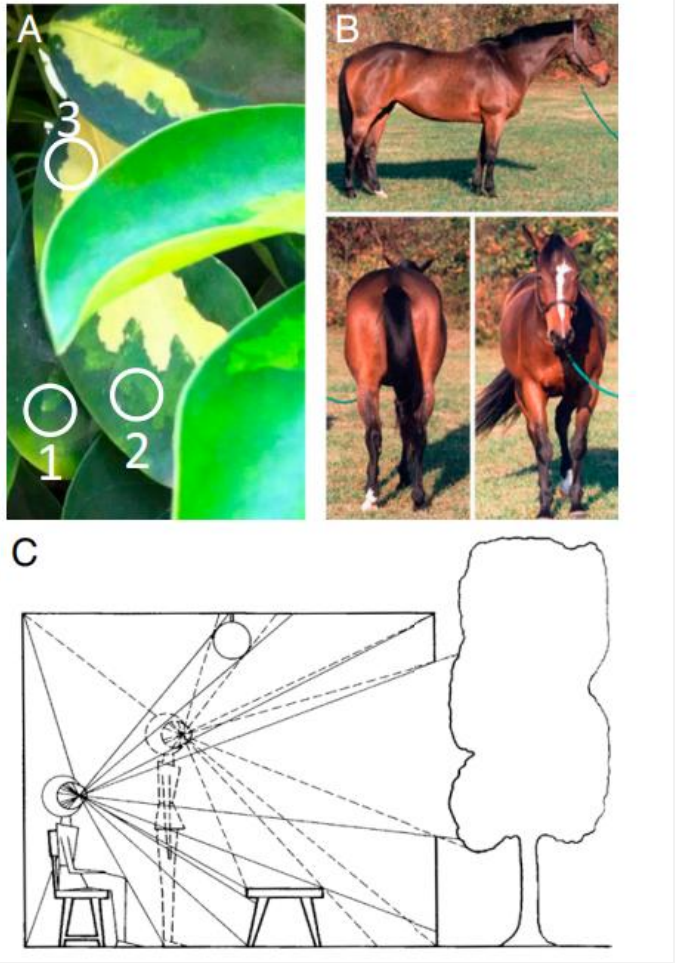
JOHN

We're going to have to take hostages and barricade ourselves in the store. everyone stay cal' and do as I say.

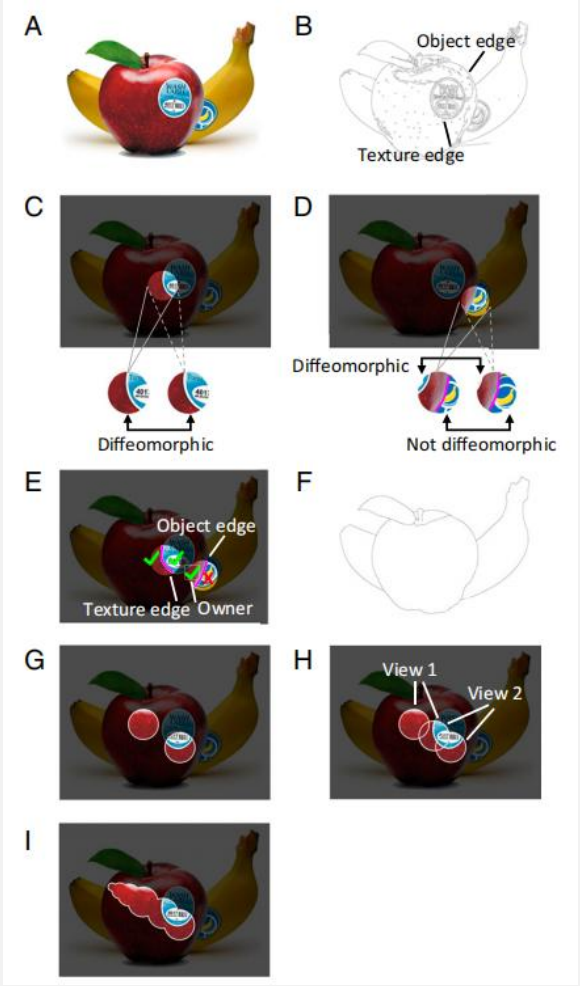
「向传统视觉研究寻求破局之法」成为了近年来计算机视觉领域的一大趋势。将传统视觉技术与深度学习方法结合有望构建更为鲁邦的下一代视觉模型。

近日，著名计算机视觉、神经科学学者曹颖在美国科学院院刊 PNAS 上发表研究论文，基于 J.J.Gibson 的「生态光学」和微分拓扑学提出了一种新的图像分割与目标跟踪框架，对计算机视觉和生物视觉研究具有巨大的启发意义。

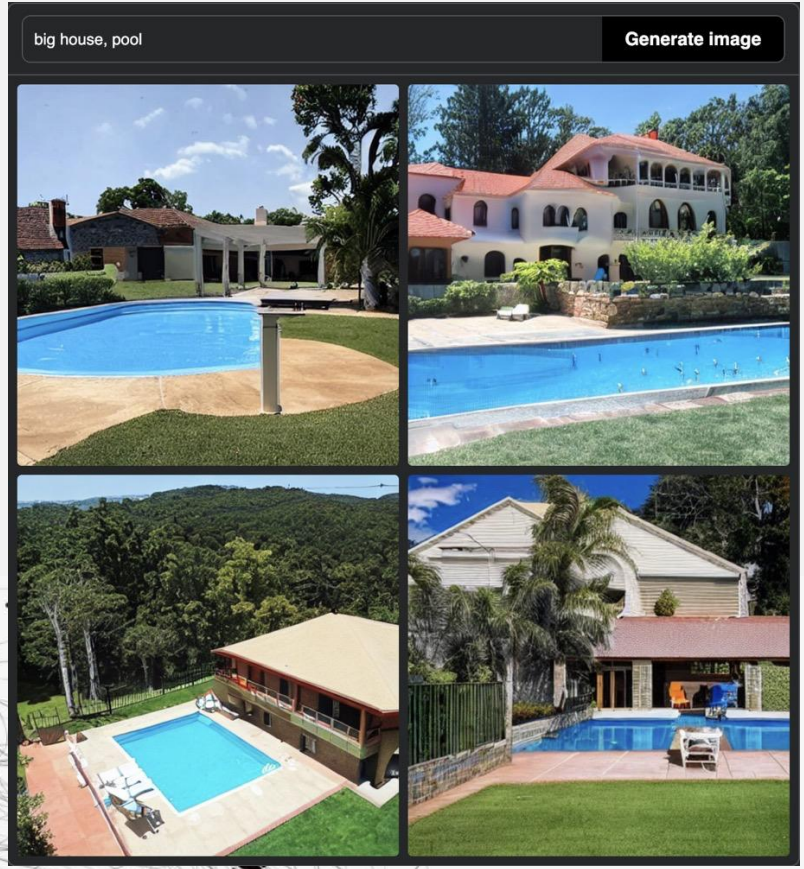
原文地址：https://www.pnas.org/doi/full/10.1073/pnas.2204248119



目标分割和跟踪任务面临的挑战，
以及 Gibson 提出的解决方案框架



目标分割与跟踪的拓扑解决方案

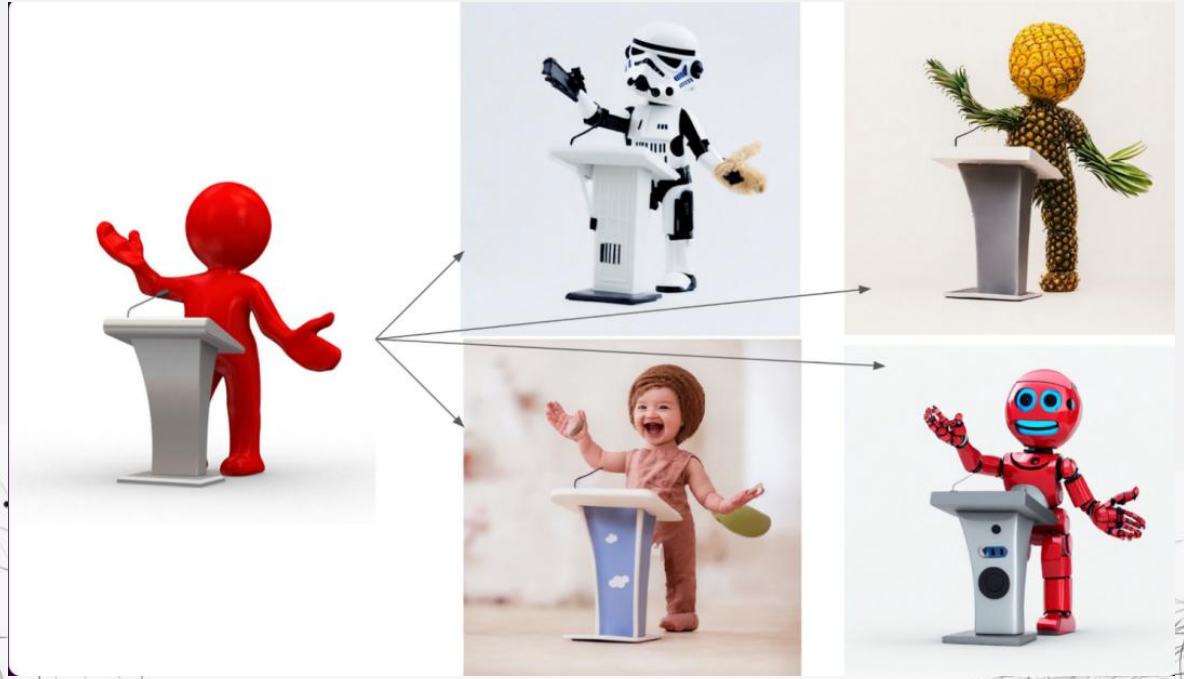


Stable Diffusion 2.0

Stable Diffusion 是一种潜在的文本到图像扩散模型，能够在给定任何文本输入的情况下生成逼真的图像，培养自主自由以产生令人难以置信的图像，使数十亿人能够在几秒钟内创造出令人惊叹的艺术。

Stable Diffusion 2.0

Stable Diffusion 2.0



OpenBG

在数字商业领域，知识图谱业务的蓬勃发展在许多应用显示出了巨大的潜力，但它仍面临着诸多挑战。由阿里巴巴藏经阁团队和浙江大学开放的数字商业知识图谱评测基准 OpenBG 提供了丰富的数字商业领域知识图谱的评测数据集，覆盖基于知识图谱的商品显著性推理、商品同款挖掘、商品知识图谱链接预测等任务，对模型展开了全方位评测，旨在帮助算法人员对模型取得更好的理解。

项目地址：https://opengb.readthedocs.io/en/latest/

OpenBG

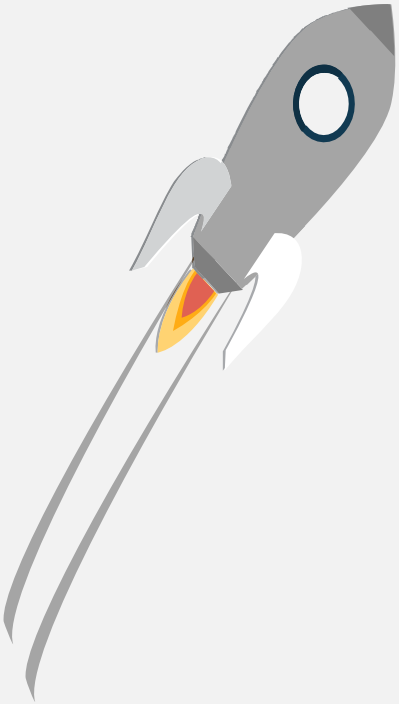
常识知识是被社会广泛承认的对同一事物普遍存在的日常共识。在电商场景中，显著性常识基于背后的知识体系，能为不同的用户推荐合适的商品，对用户体验和购物效率有重要的意义。现有的常识分类方法往往只注重评判常识是否合理，如“跑步需要喝水”、“出差需要背包”。但当在电商平台搜索“跑步”时，瓶装水一般不是用户真实的购物意图，用户关注的商品一般是“跑步鞋”、“跑步机”等健身用品；在搜索“出差”时，“背包”一般并不是用户需要的商品，但“旅行箱”可能是符合用户意图的商品。显著的常识可以帮助搜索引擎有更好的理解能力，从而返回更贴合用户需要的商品。

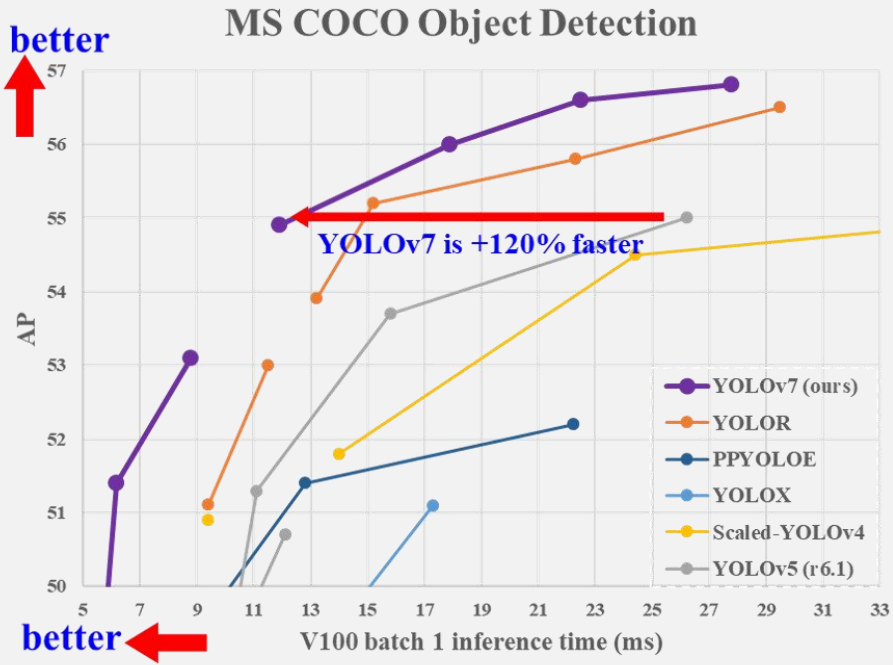
输入	输出
常识三元组（S，P，O）	显著性标签 0 或者 1
示例	
（跑步鞋，品类_适用_场景，跑步）	1
（瓶装水，品类_适用_场景，跑步）	0

输入		输出
商品 1 标题、商品主图、属性值对	商品 2 标题、商品主图、属性值对	预测标签
示例（为了方便展示，商品信息未列全）		
Redmi Buds 3 真无线蓝牙耳机半入耳式降噪运动跑步双耳小米红米 	小米 Redmi Buds 3 真无线蓝牙耳机半入耳式降噪运动跑步双耳红米 	1
Redmi Buds 3 真无线蓝牙耳机半入耳式降噪运动跑步双耳小米红米 	EDIFIER/漫步者 lollipods 无线蓝牙耳机女生款...适用于苏果华为安卓小米 	0

YOLOv7

从 2015 年的 YOLOV1，2016 年 YOLOV2，2018 年的 YOLOV3，到 2020 年的 YOLOV4、 YOLOV5， 以及最近出现的 YOLOV6 和 YOLOV7 可以说 YOLO 系列见证了深度学习时代目标检测的演化。YOLOv7 甚至支持了语义分割。

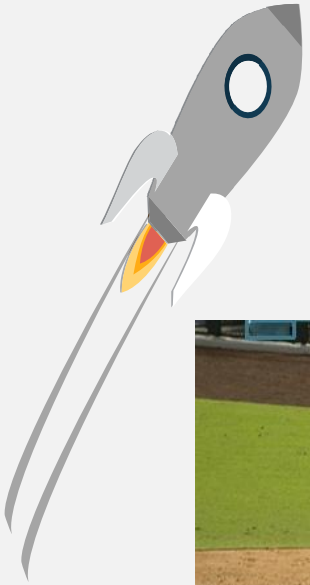


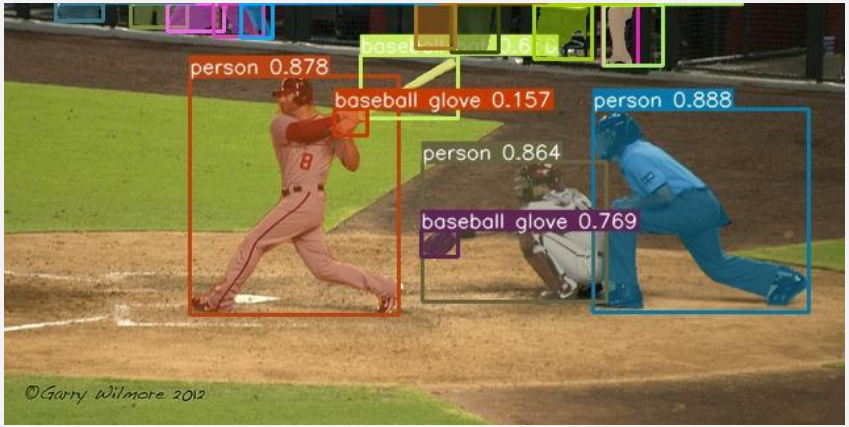


项目地址：https://github.com/WongKinYiu/yolov7

YOLOv7

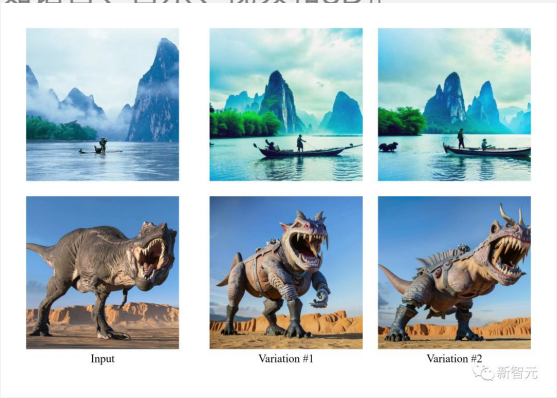

horse 0.96
horse 0.80
horse 0.94

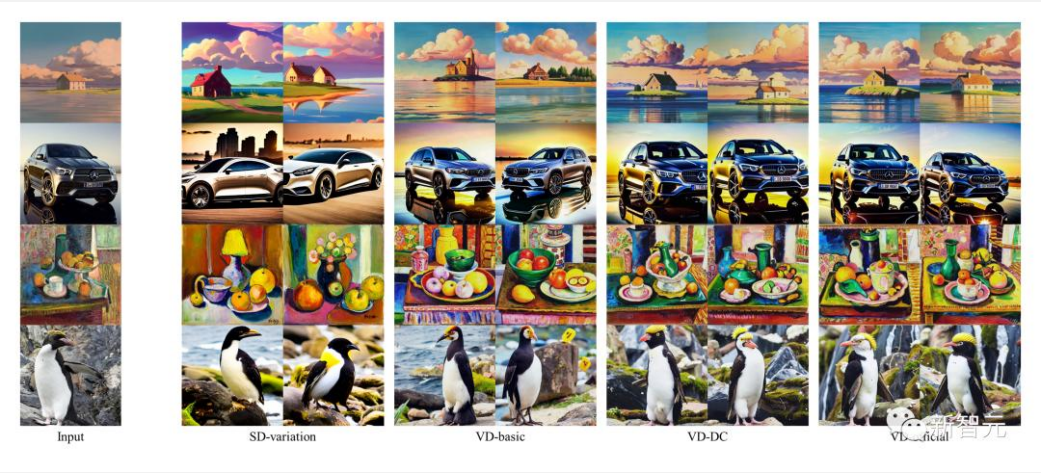



person 0.878
baseball glove 0.157
person 0.888
person 0.864
baseball glove 0.769
©Garry Wilmore 2012

Versatile Diffusion

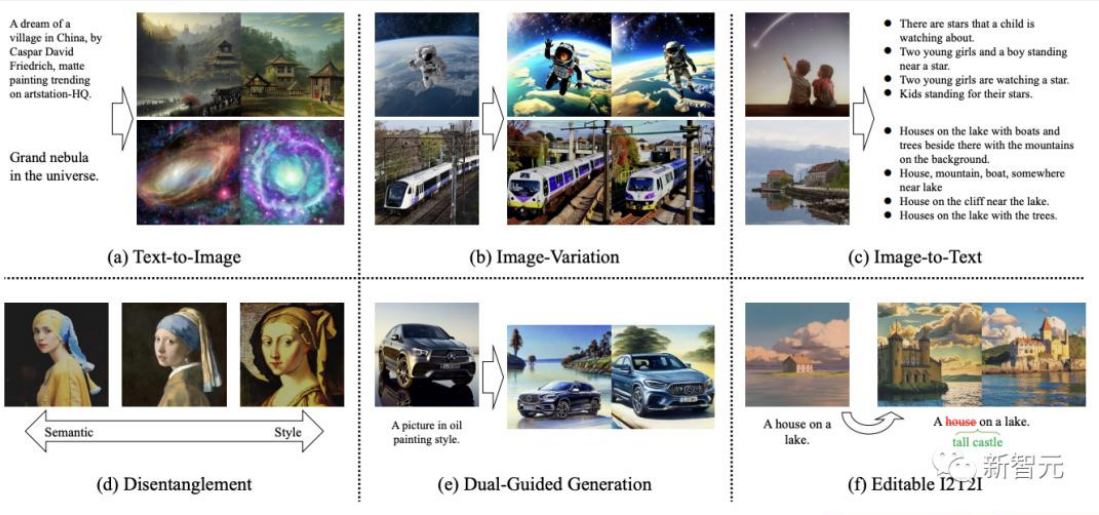
Diffusion 模型的最新进展在许多生成任务中树立了一个令人印象深刻的里程碑。诸如 DALL·E 2、Imagen 和 Stable Diffusion（SD）等引人瞩目的工作，引起了学术界和工业界的极大兴趣。不过，虽然这些模型表现惊艳，但基本都是专一于某一类任务，比如由给定文本生成图像，而对于不同类型的任务，则往往需要专门单独训练，或重新构建新模型。那么能不能在前人基础上搞一个「全能型」的 Diffusion，实现 AIGC 模型的大一统呢？有人就在努力沿着这个方向进行探索，并已经取得了进展。这个来自伊利诺伊大学厄巴纳-香槟分校、得克萨斯大学奥斯汀分校的联合团队，试图将现有的单流 Diffusion 扩展为多流网络，称为Versatile Diffusion（VD），这是第一个统一的多流多模态 Diffusion 框架，是迈向通用生成性人工智能的一步。Versatile Diffusion 除了普通的文字生成图像功能之外，还可以输入图像生成类似图像，输入图像生成文字，输入文字生成相似文字，图片语义解耦编辑，输入图像及文字生成视频，根据隐空间编辑图像内容等等。未来的版本还将支持更多的模式，如语音、音乐、视频和3D。



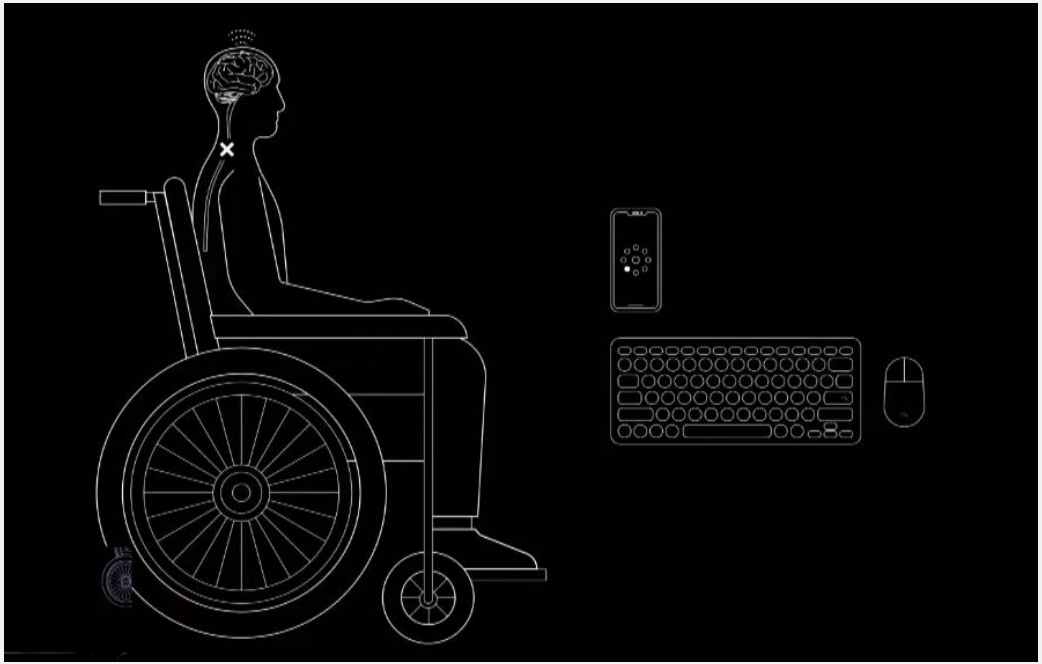


介绍文章：https://github.com/SHI-Labs/Versatile-Diffusion

Versatile Diffusion

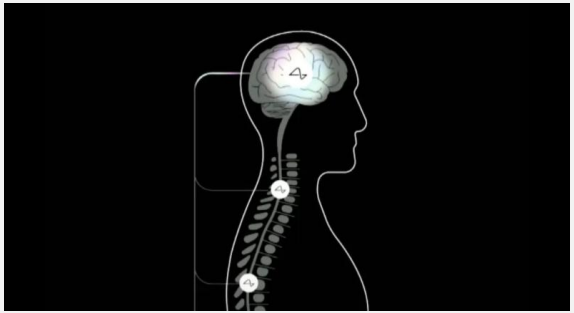


Neuralink



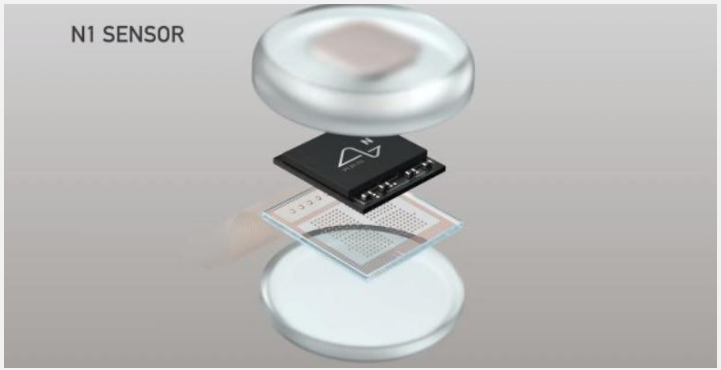
相关报道：https://www.youtube.com/watch?v=YreDYmXTYi4

Neuralink



马斯克说，他有信心Neuralink能够恢复视力，
即使人们从未睁眼见过这个世界，是天生的盲人。
他解释说，这将是Neuralink针对人类的首批应用之一。

Neuralink近年来一直在对动物进行测试。据悉，它正在寻求美国食品和药物管理局 (FDA) 的批准，开始对人体进行临床试验。马斯克说：“我们希望非常小心，并确保它在将设备放入人体之前能正常工作。”



2022

谢谢观看！