



Lagent & AgentLego 智能体应用搭建

樊奇 | Lagent & AgentLego 核心贡献者

大语言模型的局限性

大语言模型的局限性

幻觉

模型可能会生成虚 假信息,与现实严 重不符或脱节。

鲁迅和周树人是同一个人吗?





鲁迅和周树人不是同一个人。

大语言模型的局限性

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模型可能会生成虚 假信息,与现实严 重不符或脱节。

时效性

模型训练数据过时, 无法反映最新趋势 和信息。

今年是哪一年?





今年是2023年。

大语言模型的局限性

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模型训练数据过时, 无法反映最新趋势 和信息。

可靠性

面对复杂任务时, 可能频发错误输出 现象,影响信任度。

你能帮我写一段微调 LLM 的代码吗?





def train():

return 'Hello World'

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智能体

什么是智能体



智能体

什么是智能体



可以感知环境中的动态条件。 (perception of dynamic conditions in the environment)

能采取动作影响环境。 (action to affect conditions in the environment)

能运用推理能力理解信息、解决问题、产生推断、决定动作。 (reasoning to interpret perceptions, solve problems, draw inferences, and determine actions)

> ——Hayes-Roth 1995 An Architecture for Adaptive Intelligent Systems

智能体组成



智能体

智能体组成



大脑: 作为控制器, 承担记忆、思考和决策任务。接受来自感知模块的信息, 并采取相应动作。

感知:对外部环境的多模态信息进行感知和处理。包括但不限于图像、音频、视频、传感器等。

动作:利用并执行工具以影响环境。工具可能包括文本的检索、调用相关 API、操控机械臂等。

智能体

智能体范式

ReAct ReWoo **AutoGPT** 输入 输入 输入 选择工具 选择工具 计划拆分 人工干预 执行工具 DAG 执行工具 结束 结束 条件 计划执行 条件 结束 结束 结束

AutoGPT

AutoGPT

输入

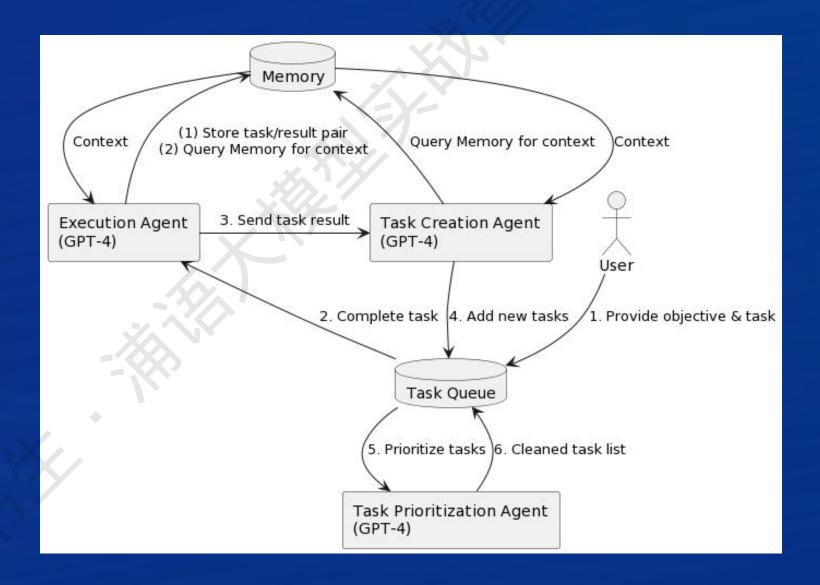
选择工具

人工干预

执行工具

结束 条件

结束



ReWoo

ReWoo

输入

计划拆分

DAG

计划执行

结束

Planner

<Context prompt> For the following tasks, ...

<Exemplars> For example ...

What is the name of the cognac house that makes the main ingredient in The Hennchata?

Plan: Search for more information about The
Hennchata.

#E1 = Wikipedia[The Hennchata]

Plan: Find out the main ingredient of The Hennchata.

#E2 = LLM[What is the main ingredient of The

Hennchata? Given context: #E1]

Plan: Search for more information about the main ingredient.

#E3 = Wikipedia[#E2]

Plan: Find out the cognac house that makes the main ingredient.

#E4 = LLM[What is the name of the cognac house that
makes the main ingredient #E2? Given context: #E3]

Worker

#E1 = Wikipedia[The Hennchata]

Evidence: The Hennchata is a cocktail consisting of Hennessy cognac...

#E2 = LLM[What is the main ingredient of The Hennchata?
Given context: The Hennchata is a cocktail consisting of
Hennessy cognac...]

Evidence: Hennessy cognac

#E3 = Wikipedia[Hennessy cognac]

Evidence: Jas Hennessy & Co., commonly known ...

#E4 = LLM[What is the name of the cognac house that
makes the main ingredient Hennessy cognac? Given
context: Jas Hennessy & Co., commonly known ...]

Evidence: Jas Hennessy & Co.

Solver

<Context prompt> Solve the task given provided plans and evidence ...

Plan: Search for more information about The Hennchata.

Evidence: The Hennchata is a cocktail consisting of Hennessy cognac and Mexican rice horchata agua fresca ...

Plan: Find out the main ingredient of The Hennchata.

Evidence: Hennessy cognac

Plan: Search for more information about the main ingredient.

Evidence: Jas Hennessy & Co., commonly known simply as Hennessy (French pronunciation: [ɛnɛsi])...

Plan: Find out the cognac house that makes the main ingredient.

Evidence: Jas Hennessy & Co.

Answer: Jas Hennessy & Co

ReAct

ReAct

输入

选择工具

执行工具

结束

(1) Hotspot QA Question: How many rooms are in the hotel that is home to the Cirque du Soleil show Mystere? HotpotQA label: 2,664

(1a) Standard

Answer: 3,000

(1b) CoT (Reason Only)

Thought: Let's think step by step. The hotel that is home to the Cirque du Soleil show Mystere is_ Treasure Island. Treasure Island has 2,885 rooms, so the answer is 2,885.

Answer: 2,885

(1c) Act-Only

Outdated X

Act 1: Search [Cirque du Soleil] Obs 1: Cirque du Soleil is a Canadian entertainment company...

Act 2: Lookup [Mystere] Obs 2: No more results

Act 3: Search [Mystere (Cirque du Soleil show)]

Obs 3: Could not find ...

Act 4: Search Mystere (Cirque du Soleil) 1

Obs 4: Mystère (my-steer) is one of six...

Act 5: Lookup[Treasure Island

Hotel and Casino]

.....(end without answer)

(1d) ReAct (Reason + Act)

Thought 1: I need to search Cirque du Soleil show Mystere, find the hotel it is in, then find the number of rooms in the hotel.

Act 1: Search[Cirque du Soleil show Mystere]

Obs 1: Could not find Cirque du Soleil show Mystere. Similar: ['Cirque du Soleil' ...

Thought 2: To find the hotel, I can search Mystere (Cirque du Soleil) .

Act 2: Search[Mystere (Cirque du Soleil)]

Obs 2: Mystère (my-steer) is ... Held in a custom theatre at the Treasure Island Hotel and Casino ...

Thought 3: Mystere is held in a custom theatre at the Treasure Island Hotel and Casino. So I need to search Treasure Island Hotel and Casino next and find the number of rooms in the hotel.

Act 3: Search[Treasure Island Hotel and Casino]

Obs 3: Treasure Island Hotel and Casino ... with 2,884 rooms and 220 suites ...

Thought 4: Treasure Island Hotel and Casino has 2,884 rooms and 220 suites. So the answer is 3,104.

Act 4: Finish[3,104]

Up-to-date





Lagent & AgentLego





Lagent

Lagent

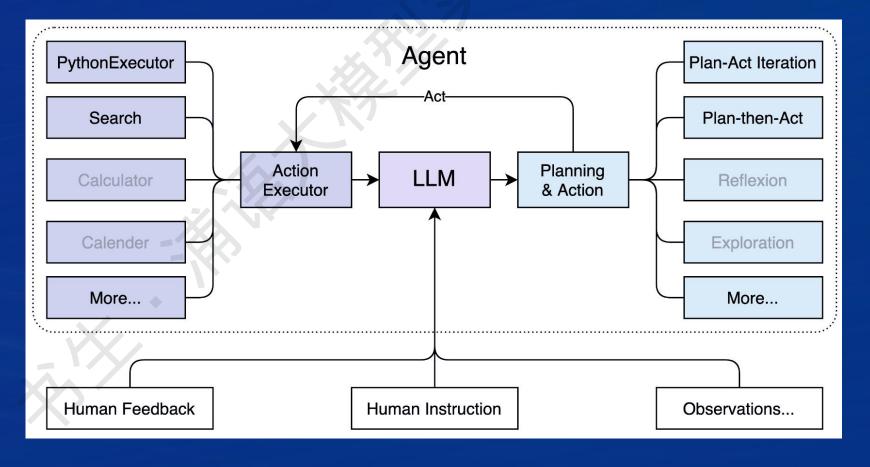
Lagent

1 Lagent

一个轻量级开源智能 体框架,旨在让用户 可以高效地构建基于 大语言模型的智能体。

支持多种智能体范式。 (如 AutoGPT、 ReWoo、ReAct)

支持多种工具。(如 谷歌搜索、Python 解释器等)



AgentLego

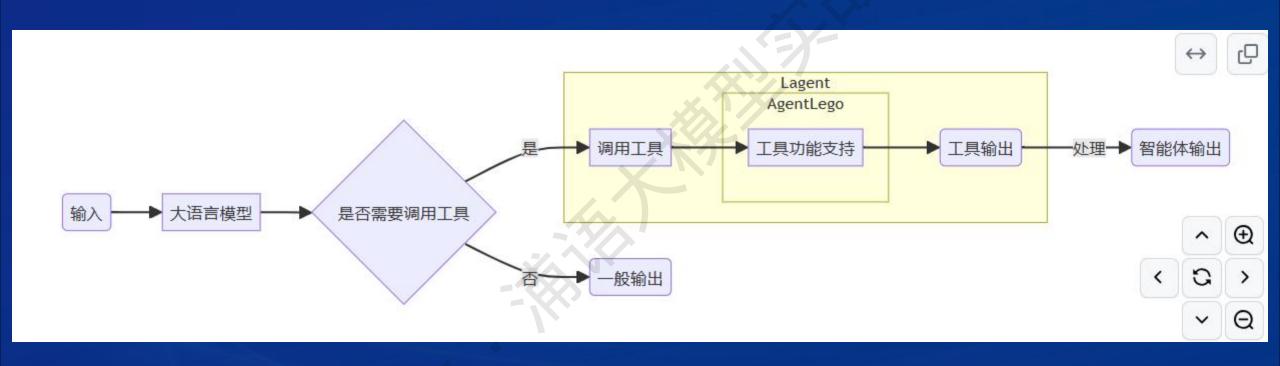


AgentLego

一个多模态工具包,旨在像乐高积木,可以快速简便地拓展自定义工具,从而组装出自己的智能体。 支持多个智能体框架。(如 Lagent、LangChain、Transformers Agents) 提供大量视觉、多模态领域前沿算法。



两者的关系



实战一: Lagent 轻量级智能体框架



Lagent Web Demo



Lagent Web Dem



```
"name": "WeatherQuery",
"parameters": {
    "query": "上海"
```

数据观测时间: 2024-04-09T20:24+08:00

温度: 16°C 体感温度: 15°C

天气:阴

风向: 北风, 角度为 355° 风力等级: 0, 风速为 1 km/h

相对湿度: 39

当前小时累计降水量: 0.0 mm

大气压强: 1023 百帕 能见度: 19 km

```
⑥ 请帮我搜索 InternLM2 Technical Report
```

```
"name": "ArxivSearch",
"parameters": {
    "query": "InternLM2 Technical Report"
```

{"content": "Published: 2024-03-26\nTitle: InternLM2 Technical Report\nAuthors: Zheng Cai, Maosong Cao, Haojiong Chen, Kai Chen, Keyu Chen, Xin Chen, Xun Chen,

以下是关于"InternLM2 Technical Report"的搜索结果: \n\n1. 标题: InternLM2 Technical Report\n 作者: Zheng Cai, Maosong Cao, Haojiong Chen, Kai Chen, Keyu Chen, Xin Chen, Xun Chen, Zehui Chen, Zhi Chen, Pei Chu, Xiaoyi Dong, Haodong Duan, Qi Fan, Zhaoye Fei, Yang Gao, Jiaye Ge, Chenya Gu, Yuzhe Gu, Tao Gui, Aijia Guo, Qipeng Guo, Conghui He, Yingfan Hu, Ting Huang, Tao Jiang, Penglong Jiao, Zhenjiang Jin, Zhikai Lei, Jiaxing Li, Jingwen Li, Linyang Li, Shuaibin Li, Wei Li, Yining Li, Hongwei Liu, Jiangning Liu, Jiawei Hong, Kaiwen Liu, Xiaoran Liu, Xiaoran Liu, Chengqi Lv, Haijun Lv, Kai Lv, Li Ma, Runyuan Ma, Zerun Ma, Wenchang Ning, Linke Quyang, Jiantao Qiu, Yuan Qu, Fukai Shang, Yunfan Shao, Demin Song, Zifan Song, Zhihao Sui, Peng Sun, Yu Sun, Huanze Tang, Bin Wang, Guoteng Wang, Jiaqi Wang, Jiayu Wang, Rui Wang, Yudong Wang, Ziyi Wang, Xingjian Wei, Qizhen Weng, Fan Wu, Yingtong Xiong, Chao Xu, Ruiliang Xu, Hang Yan, Yirong Yan, Xiaogui Yang, Haochen Ye, Huaiyuan Ying, Jia Yu, Jing Yu, Yuhang Zang, Chuyu Zhang, Li Zhang, Pan Zhang, Peng Zhang, Ruijie Zhang, Shuo Zhang, Songyang Zhang, Wenjian Zhang, Wenwei Zhang, Xingcheng Zhang, Xinyue Zhang, Hui Zhao, Qian Zhao, Xiaomeng Zhao, Fengzhe Zhou, Zaida Zhou, Jingming Zhuo, Yicheng Zou, Xipeng Qiu, Yu Qiao, Dahua Lin\n 摘要:该报告介绍了InternLM2,一种开源的大型语言模型,它在多个方面和基准测试 中表现出色。该模型采用了创新的预训练和优化技术,并详细介绍了其预训练过程。InternLM2还采用了Supervised Fine-Tuning和一种名为COOL RLHF的新型强化学习技术,以解决人类偏好和奖 励作弊问题。该报告还提供了不同训练阶段和模型大小的InternLM2模型,以供社区参考。\n\n2. 标题:Cumulative Reports of the SoNDe Project July 2017\n 作者:Sebastian Jaksch, Ralf Engels, Günter Kemmerling, Codin Gheorghe, Philip Pahlsson, Sylvain Désert, Frederic Ott\n 摘要:该报告是SoNDe探测器项目截至2017年7月的累积报告。报告内容包括:\n-1x1模块技术演示器的报告\n-所用材料的报告\n - 组件辐射硬度的报告\n - 潜在附加应用的报告\n - 2x2模块技术演示器的报告\n - 2x2技术演示器测试结果的报告\n\n3. 标题:Banach Couples. I. Elementary Theory\n 作者:Jaak Peetre, Per Nilsson n 摘要:该报告是Jaak Peetre的"Banach Couples. I. Elementary Theory"的精确副本,最初于1971年在目勒 (Lund) 作为技术报告发布。报告中还添加了更多最近的一般参考资 料,并对一些参考资料进行了更新。\n\n希望这些信息对您有所帮助!

上海的天气情况如下: \n-温度: 16°C\n-体感温度: 15°C\n-天气: 阴\n-风向: 北风,角度为355°\n-风力等级: 0,风速为1km/h\n-相对湿度: 39%\n-当前小时累计降水量: 0.0 mm\n-大气压 强: 1023 百帕\n-能见度: 19 km\n\n希望这些信息能帮到你!

实战二: AgentLego 组装智能体 "乐高"

