

【AI大模型应用开发】【AutoGPT系列】1. 快速上手 - 原生 AutoGPT or 利用AutoGPT开发自己的Agent

原创 同学小张 同学小张 2024-03-13 08:00 北京

大家好，我是【同学小张】。持续学习，持续干货输出，关注我，跟我一起学AI大模型技术！



同学小张

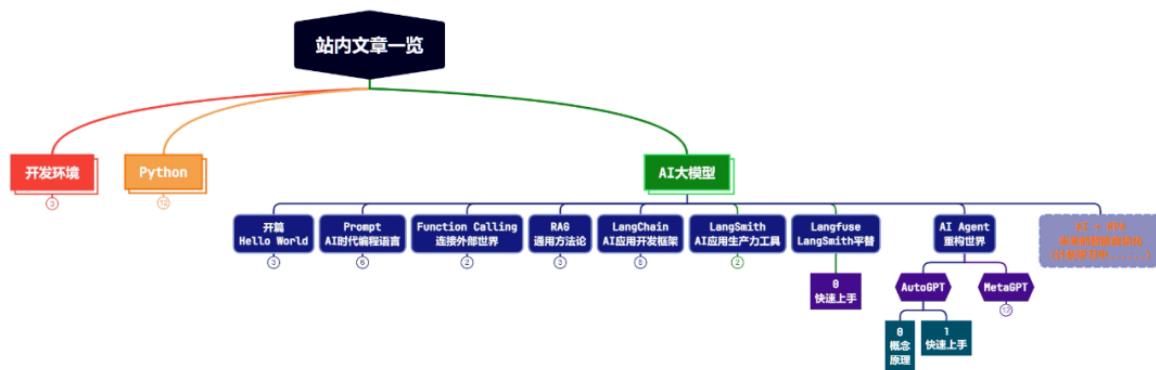
系统性分享AI知识和实战案例，从小白出发，持续学习，持续干货输出。

>

63篇原创内容

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有任何问题，欢迎+vx: **jasper_8017**，期待与志同道合的朋友一起讨论，共同进步！

在上篇文章中，我们了解了AutoGPT的概念和原理。今天，我们来学习如何上手使用AutoGPT。

AutoGPT目前好像没有了利用 pip install 来安装python包的使用方式？

AutoGPT的最新版本能否使用pip install来安装和使用?

Python 简体中文

回答

AutoGPT的最新版本目前还无法直接使用pip install来安装和使用。您需要手动下载最新版本的Python 3和Auto-GPT可执行文件，并按照GitHub上提供的步骤进行安装和配置。以下是详细的安装步骤：

步骤1：下载Python和AutoGPT 首先，您需要手动下载最新版本的Python 3和Auto-GPT可执行文件。您可以从Python官方网站下载Python 3，并从GitHub下载Auto-GPT。

步骤2：配置Auto-GPT 由于AutoGPT使用OpenAI的GPT技术，您需要从OpenAI生成一个API密钥作为使用其产品的凭据。注册OpenAI账户并生成API密钥后，您需要将API密钥放入Auto-GPT文件夹中的.env文件中。

步骤3：安装Auto-GPT依赖项 安装完Python和配置好Auto-GPT后，您需要通过终端安装Auto-GPT的所有依赖项。在Auto-GPT环境中打开终端，并使用以下命令安装所需的所有依赖项：pip install -r requirements.txt。

安装完成后，您可以使用以下命令打开Auto-GPT：python -m autogpt。

需要注意的是，AutoGPT目前仍在开发中，因此安装和使用可能需要一些技术知识。希望这些步骤能帮助您安装和使用AutoGPT。

0. 环境搭建

我是Windows系统，需要使用wsl进行安装，Linux或者Mac直接用命令行即可。

0.1 Windows系统安装方式

(1) 将AutoGPT clone到电脑WSL系统内部某个文件夹内，而不是clone到Windows系统的某个文件夹内（这个容易失败，后面2.2为此种失败的尝试）。在某个路径文件夹下执行：

```
git clone https://github.com/Significant-Gravitas/AutoGPT.git
```

(2) 进入你的本地目录

```
cd xxx/AutoGPT
```

(3) 找到.env.template文件，复制一份重命名为.env文件，将API Key和Base URL代理服务地址填上。

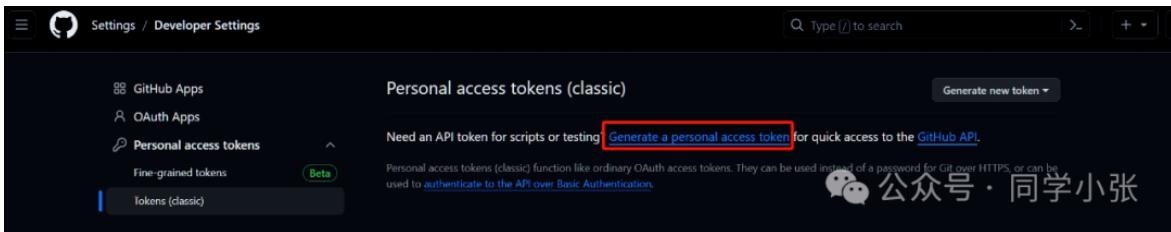
```

$ .envtemplate
autogpt> autogpt > env
1 ##### GENERAL SETTINGS
2 ## AutoGPT - GENERAL SETTINGS
3
4
5 ## OPENAI API KEY - OpenAI API Key (Example: my-openai-api-key)
6 OPENAI_API_KEY="sk-...
7 OPENAI_BASE_URL="https://api.openai.com/v1"
8
9
10 ## TELEMETRY_OPT_IN - Share telemetry on errors and other issues with the AutoGPT team, e.g. through Sentry.
11 ## This helps us to spot and solve problems earlier & faster. (Default: DISABLED)
12 # TELEMETRY_OPT_IN=true
13
14 ## EXECUTE_LOCAL_COMMANDS - Allow local command execution (Default: False)
15 # EXECUTE_LOCAL_COMMANDS=False
16
17 ## Workspace ##
18
19 ## RESTRICT_TO_WORKSPACE - Restrict file operations to workspace ./data/agents/<agent_id>/workspace (Default: True)
20 # RESTRICT_TO_WORKSPACE=True
21
22 ## DISABLED_COMMAND_CATEGORIES - The list of categories of commands that are disabled (Default: None)
23 # DISABLED_COMMAND_CATEGORIES=
24
25 ## WORKSPACE_BACKEND - Choose a storage backend for workspace contents
26 ## Options: local, gcs, s3
27 # WORKSPACE_BACKEND=local
28
29 ## WORKSPACE_STORAGE_BUCKET - GCS/S3 Bucket to store workspace contents in
30 # WORKSPACE_STORAGE_BUCKET=autogpt
31
32 ## GCS Credentials
33 # see https://cloud.google.com/storage/docs/authentication#libauth
34
35 ## AWS/S3 Credentials
36 # see https://boto3.amazonaws.com/v1/documentation/api/latest/guide/configuration.html
37
38 ## S3_ENDPOINT_URL - If you're using non-AWS S3, set your endpoint here.
39 # S3_ENDPOINT_URL=
40
41 ## Miscellaneous ##
42
43 ## USER_AGENT - Define the user-agent used by the requests library to browse websites
44 # USER_AGENT="Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/83.0.4103.97 Safari/537.36"

```

(4) 按下面图片步骤生成GitHub的access token，并填到AutoGPT的配置文件中

- 进入 <https://github.com/settings/tokens> 网页



- 填表，生成token

Note

AutoGPT_Key

Expiration *

No expiration The token will never expire!

GitHub strongly recommends that you set an expiration date for your token to help keep your information secure. [Learn more](#)

Select scopes

Scopes define the access for personal tokens. [Read more about OAuth scopes.](#)

<input checked="" type="checkbox"/> repo	Full control of private repositories Access commit status Access deployment status Access public repositories Access repository invitations Read and write security events
<input type="checkbox"/> workflow	Update GitHub Action workflows
<input type="checkbox"/> write:packages	Upload packages to GitHub Package Registry Download packages from GitHub Package Registry
<input type="checkbox"/> read:packages	

- 粘贴token到AutoGPT的.github_acess_token文件中

The screenshot shows the GitHub 'Personal access tokens (classic)' page. A newly generated token, 'ghp_...', is highlighted with a red box. A note at the top says, 'Make sure to copy your personal access token now. You won't be able to see it again!' Below the token is a explanatory text: 'Personal access tokens (classic) function like ordinary OAuth access tokens. They can be used instead of a password for GitHub over HTTPS, or can be used to authenticate to the API over Basic Authentication.' A watermark '公众号 · 同学小张' is visible in the bottom right.

The screenshot shows a terminal window in WSL. The current directory is 'AUTOGPT [WSL: UBUNTU...]. The file '.github_access_token' is open in the terminal, showing a single line of text starting with '1 ghp...'. This line is also highlighted with a red box. The terminal also lists other files like '.env', '.flake8', '.gitignore', '.gitmodules', 'CITATION.cff', 'CLI-USAGE.md', 'CONTRIBUTING.md', 'LICENSE', 'poetry-installer-error-unemxiwi.log', 'poetry-installer-error-zyfyis6m.log', 'QUICKSTART.md', 'README.md', 'run', 'setup.sh', and 'TROUBLESHOOTING.md'. A watermark '公众号 · 同学小张' is visible in the bottom right.

(5) 配置github

```
git config --global user.name "Your Name"
git config --global user.email "you@example.com"
```

如果上面GitHub设置不成功，则会出现下面的错误：

The screenshot shows a terminal window displaying an error message from Poetry installation. The error message indicates that there was an issue with the GitHub access token configuration. It provides steps to resolve the issue, including generating a new token and saving it to the '.github_access_token' file. A watermark '公众号 · 同学小张' is visible in the bottom right.

(6) 执行 `./run setup`，安装成功显示如下：

```
Successfully installed Deprecated-1.2.14 PyGithub-2.2.0 pynacl-1.5.0

  d8888      888      .d8888b. 888888888888
  d8888      888      d88P Y88b 888 Y88b 888
  d88P888     888      888 888 888 888
d88P 888 888 888 8888888 .d88b. 888      888 d88P 888
d88P 888 888 888 888 "88b 888 88888 8888888P" 888
d88P 888 888 888 888 888 888 888 888
d8888888888 Y88b 888 Y88b. Y88..88P Y88b  d88P 888 888
d88P      888 "Y88888 "Y888 "Y88P" "Y8888P88 888

  🚀 Setup initiated...

poetry could not be found
Installing poetry...
Retrieving Poetry metadata

# Welcome to Poetry!

This will download and install the latest version of Poetry,
a dependency and package manager for Python.

It will add the `poetry` command to Poetry's bin directory, located at:

/home/.../.local/bin

You can uninstall at any time by executing this script with the --uninstall option,
and these changes will be reverted.

Installing Poetry (1.7.1): Done

Poetry (1.7.1) is installed now. Great!

To get started you need Poetry's bin directory (/home/.../.local/bin) in your `PATH`
environment variable.

Add `export PATH="/home/.../.local/bin:$PATH"` to your shell configuration file.

Alternatively, you can call Poetry explicitly with `/home/.../.local/bin/poetry`.

You can test that everything is set up by executing:

`poetry --version`

✓ Git is configured with name '同学小张' and email ...
✓ GitHub access token loaded successfully.
✓ GitHub access token has the required permissions.
```

0.2 失败的尝试 - 如果你失败了，可以看下是否是跟我一样的方式，帮你避坑

(1) 将AutoGPT clone到电脑本地：在某个路径文件夹下执行：

```
git clone https://github.com/Significant-Gravitas/AutoGPT.git
```

(2) 进入你的本地目录

```
cd /mnt/d/GitHub/AutoGPT_ZH
```

(3) 找到.env.template文件，复制一份重命名为.env文件，将API Key和Base URL代理服务地址填上。

(4) 执行 `./run setup`

(5) 可能遇到如下错误：

```
~ > cd /mnt/d/GitHub/AutoGPT_ZH
/mnt/d/GitHub/AutoGPT_ZH ✘ master ± > ./run setup
zsh: ./run: bad interpreter: /bin/bash^M: no such file or directory
```

解决此错误：

```
sudo apt update
sudo apt install dos2unix
dos2unix ./run
```

然后重新运行 `./run setup`

(6) 还有错误：

```
# Setup initiated...

Traceback (most recent call last):
  File "cli.py", line 893, in <module>
    cli()
  File "/usr/lib/python3/dist-packages/click/core.py", line 722, in __call__
    return self.main(*args, **kwargs)
  File "/usr/lib/python3/dist-packages/click/core.py", line 697, in main
    rv = self.invoke(ctx)
  File "/usr/lib/python3/dist-packages/click/core.py", line 1066, in invoke
    return _process_result(sub_ctx.command.invoke(sub_ctx))
  File "/usr/lib/python3/dist-packages/click/core.py", line 895, in invoke
    return ctx.invoke(self.callback, **ctx.params)
  File "/usr/lib/python3/dist-packages/click/core.py", line 535, in invoke
    return callback(*args, **kwargs)
  File "cli.py", line 52, in setup
    subprocess.check_call([setup_script], cwd=script_dir)
  File "/usr/lib/python3.6/subprocess.py", line 306, in check_call
    retcode = call(*popenargs, **kwargs)
  File "/usr/lib/python3.6/subprocess.py", line 287, in call
    with Popen(*popenargs, **kwargs) as p:
  File "/usr/lib/python3.6/subprocess.py", line 729, in __init__
    restore_signals, start_new_session)
  File "/usr/lib/python3.6/subprocess.py", line 1364, in _execute_child
    raise child_exception_type(errno_num, err_msg, err_filename)
FileNotFoundError: [Errno 2] No such file or directory: '/mnt/d/GitHub/AutoGPT_ZH/setup.sh' /mnt/d/GitHub/AutoGPT_ZH/setup.sh'
```

1. 运行AutoGPT

(1) 在 `AutoGPT/autogpts/autogpt` 目录下运行AutoGPT命令：

```
python -m autogpt
```

运行成功如下：

```
o (base) ~ Learn/AutoGPT/autogpts/autogpt master python -m autogpt
plugins_config.yaml does not exist, creating base config.
2024-02-17 20:19:18,135 INFO NEWS: Welcome to AutoGPT!
2024-02-17 20:19:18,136 INFO NEWS: Below you'll find the latest AutoGPT News and feature updates!
2024-02-17 20:19:18,136 INFO NEWS: If you don't wish to see this message, you can run AutoGPT with the --skip-news flag.
2024-02-17 20:19:18,137 INFO NEWS: ::NEW BULLETIN::
2024-02-17 20:19:18,137 INFO NEWS:
2024-02-17 20:19:18,137 INFO NEWS: QUICK LINKS ↗
2024-02-17 20:19:18,138 INFO NEWS: -----
2024-02-17 20:19:18,138 INFO NEWS: ● Official Website: https://agpt.co.
2024-02-17 20:19:18,138 INFO NEWS: ■ User Guide: https://docs.agpt.co/autogpt.
2024-02-17 20:19:18,138 INFO NEWS: ☀ Contributors Wiki: https://github.com/Significant-Gravitas/Nexus/wiki/Contributing.
2024-02-17 20:19:18,139 INFO NEWS:
2024-02-17 20:19:18,139 INFO NEWS: v0.5.0 RELEASE HIGHLIGHTS! 🎉
2024-02-17 20:19:18,139 INFO NEWS: -----
2024-02-17 20:19:18,139 INFO NEWS: Cloud-readiness, a new UI, support for the newest Agent Protocol version, and much more!
2024-02-17 20:19:18,139 INFO NEWS: v0.5.0 is our biggest release yet!
2024-02-17 20:19:18,140 INFO NEWS:
2024-02-17 20:19:18,140 INFO NEWS: Take a look at the Release Notes on Github for the full changelog:
2024-02-17 20:19:18,140 INFO NEWS: https://github.com/Significant-Gravitas/AutoGPT/releases.
2024-02-17 20:19:18,140 INFO NEWS:
NEWS: Bulletin was updated! Press Enter to continue...
2024-02-17 20:19:45,055 INFO Smart LLM: gpt-4-turbo-preview
2024-02-17 20:19:45,055 INFO Fast LLM: gpt-3.5-turbo-0125
2024-02-17 20:19:45,056 INFO Browser: chrome
Enter the task that you want AutoGPT to execute, with as much detail as possible: 周杰伦的生日是星期几
```

注意运行命令的目录，如果不是在该目录下，可能会出现以下错误：

```
The file prompt_settings.yaml wasn't found
Please ensure you've setup and configured everything correctly. Read https://docs.agpt.co/autogpt/setup/ to double check
. You can also create a github issue or join the discord and ask there!
Traceback (most recent call last):
  File "<frozen runpy>", line 198, in _run_module_as_main
  File "<frozen runpy>", line 88, in run_code
```

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(2) 运行成功输入你的需求或问题后，后面的过程需要人工干预（确认一些前置条件，如限制条件、最佳实践例子，数据来源等）

```
2024-02-17 20:20:30,926 INFO - Recognize and respect cultural or regional significance of dates when relevant.
2024-02-17 20:20:30,926 INFO Resources:
2024-02-17 20:20:30,927 INFO - Internet access for searches and information gathering.
2024-02-17 20:20:30,927 INFO - The ability to read and write files.
2024-02-17 20:20:30,927 INFO - You are a Large Language Model, trained on millions of pages of text, including a lot of factual knowledge. Make use of this factual knowledge to avoid unnecessary gathering of information.
2024-02-17 20:20:30,927 INFO Best practices:
2024-02-17 20:20:30,927 INFO - Continuously review and analyze your actions to ensure you are performing to the best of your abilities.
2024-02-17 20:20:30,928 INFO - Constructively self-criticize your big-picture behavior constantly.
2024-02-17 20:20:30,928 INFO - Reflect on past decisions and strategies to refine your approach.
2024-02-17 20:20:30,928 INFO - Every command has a cost, so be smart and efficient. Aim to complete tasks in the least number of steps.
2024-02-17 20:20:30,929 INFO - Only make use of your information gathering abilities to find information that you don't yet have knowledge of.
2024-02-17 20:20:30,929 INFO - For any given date, calculate the day of the week quickly and accurately.
2024-02-17 20:20:30,930 INFO - Provide context or interesting facts about the date in question, if relevant and available.
2024-02-17 20:20:30,931 INFO - Consider time zones if the day of the week might differ due to geographical location.
2024-02-17 20:20:30,931 INFO - Be user-friendly by offering to answer follow-up questions related to dates or events.
Continue with these settings? [Y/n] Y
Enter AI name (or press enter to keep current):
Enter new AI role (or press enter to keep current):
2024-02-17 20:20:45,485 INFO Constraint 1: "Exclusively use the commands listed below."
Enter new constraint 1 (press enter to keep current, or '--' to remove):
2024-02-17 20:21:11,039 INFO Constraint 2: "You can only act proactively, and are unable to start background jobs or set up webhooks for yourself. Take this into account when planning your actions."
Enter new constraint 2 (press enter to keep current, or '--' to remove):
2024-02-17 20:21:12,153 INFO Constraint 3: "You are unable to interact with physical objects. If this is absolutely necessary to fulfill a task or objective or to complete a step, you must ask the user to do it for you. If the user refuses this, and there is no other way to achieve your goals, you must terminate to avoid wasting time and energy."
Enter new constraint 3 (press enter to keep current, or '--' to remove):
2024-02-17 20:21:15,728 INFO Constraint 4: "Do not provide incorrect or misleading information."
Enter new constraint 4 (press enter to keep current, or '--' to remove):
2024-02-17 20:21:14,955 INFO Constraint 5: "Ensure privacy and security by not asking for or using personal data beyond what is necessary for the task."
Enter new constraint 5 (press enter to keep current, or '--' to remove):
2024-02-17 20:21:17,449 INFO Constraint 6: "Avoid making assumptions about the reason for the inquiry."
```

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(3) 确认好上面的信息后，AutoGPT才开始正式工作，思考、制定计划，根据限制条件等组织答案回复给用户。最后还需要用户干预，授权执行程序，然后才能得到最终结果。

```
2024-02-17 20:22:14,743 INFO CALENDARGPT THOUGHTS: Jay Chou, a well-known Taiwanese musician and actor, was born on January 18, 1979.
2024-02-17 20:22:14,744 INFO REASONING: Knowing Jay Chou's birth date allows me to calculate the day of the week without needing to perform a web search or gather more information. I need to use the datetime module in Python to find the day of the week based on the date.
2024-02-17 20:22:14,744 INFO PLAN:
2024-02-17 20:22:14,744 INFO - Use Python's datetime module to calculate the day of the week for January 18, 1979.
2024-02-17 20:22:14,745 INFO - Return the result to the user.
2024-02-17 20:22:14,745 INFO CRITICISM: I initially considered the need for a web search to confirm Jay Chou's birthday. However, realizing the birth date is a fact I already have, it became clear that directly calculating the day of the week is more efficient and avoids unnecessary steps.
2024-02-17 20:22:14,746 INFO SPEAK: Let me calculate the day of the week Jay Chou was born on.

2024-02-17 20:22:14,746 INFO NEXT ACTION: COMMAND = execute_python_code ARGUMENTS = {'code': "import datetime\n\nbirthday = datetime.date(1979, 1, 18)\nday_of_week = birthday.strftime('%A')\nprint(day_of_week)"}
2024-02-17 20:22:14,746 INFO Enter 'y' to authorise command, 'y -N' to run N continuous commands, 'M' to exit program, or enter feedback for CalendarGPT...
```

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从这个运行过程，可以看到AutoGPT是半自动化的，虽然它在ChatGPT的基础上增加了独立思考和计划行动的能力，但中间仍需要人工的干预。

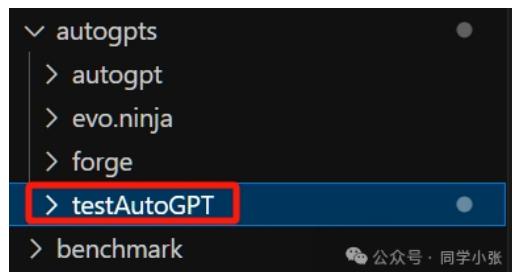
并且这种方法使用的是开源AutoGPT中已有的能力。AutoGPT虽然提供了一个完整的框架和可用的全功能，但它不是一个已经把各种问题解决的很好、拿来就能用的具体工具。目前来看，它更适合用来当作一个架构，让大家在此基础上开发专门解决具体问题的Agent。下面我们来看下怎样在此架构的基础上开发属于我们自己的Agent。

2. 创建并运行你自己的Agent

(1) 创建一个自己的AutoGPT

```
./run agent create YOUR_AUTOGPT_NAME
```

创建成功后，在代码目录下会出现你自定义的AutoGPT目录：



(2) 运行自己的AutoGPT

```
./run agent start YOUR_AUTOGPT_NAME
```

(3) 可能遇到的报错：

```
(base) * [redacted] ~/Learn/AutoGPT master > ./run agent start testAutoGPT
./setup: line 3: poetry: command not found
No poetry environment found.
./setup: line 11: poetry: command not found
Setup completed successfully.
Benchmark Server starting please wait...
Agent 'testAutoGPT' starting please wait...
Kill: usage: kill [-s sigspec | -n signum | -sigspec] pid | jobspec ... or killall [-s sigspec] name
./run: line 9: poetry: command not found
./run_benchmark: line 9: poetry: command not found
```

- 解决方案，命令行执行下命令：

```
export PATH="$HOME/.local/bin:$PATH"
```

(4) 再运行，首次启动会安装一些依赖

```
(base) * [redacted] ~/Learn/AutoGPT master > ./run agent start testAutoGPT
No poetry environment found.
Creating virtualenv autogpt-forge-zPi6v59C-py3.11 in /home/[redacted].cache/pypoetry/virtualenvs
Installing dependencies from lock file

Package operations: 180 installs, 1 update, 0 removals

  • Installing wrapt (1.16.0)
  • Installing zipp (3.17.0)
  • Installing attrs (23.2.0)
  • Installing deprecated (1.2.14)
  • Installing idna (3.6)
  • Installing importlib-metadata (6.11.0)
  • Installing pyasn1 (0.5.1)
  • Installing six (1.16.0)
  • Installing sniffio (1.3.0)
  • Installing anyio (4.2.0)
  • Installing asttokens (2.4.1)
  • Installing cachetools (5.3.2)
  • Installing certifi (2023.11.17)
  • Installing charset-normalizer (3.3.2): Downloading... 0%
  • Installing charset-normalizer (3.3.2)
  • Installing executing (2.0.1)
  • Installing frozenlist (1.4.1)
  • Installing h11 (0.14.0): Installing...
  • Installing h11 (0.14.0)
  • Installing multidict (6.0.4)
  • Installing opentelemetry-api (1.22.0)
  • Installing outcome (1.3.0.post0)
  • Installing parso (0.8.3)
  • Installing protobuf (4.25.2)
```

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(5) 成功启动后的界面

```
INFO:     Uvicorn running on http://0.0.0.0:8000 (Press CTRL+C to quit)

d8888          888          .d8888b. 888888888888
d88888         888         d88P Y88b 888 Y88b 888
d88P888        888         888 888 888 888
d88P 888 888 888 8888888 .d88b. 888 888 d88P 888
d88P 888 888 888 888 d88"88b 888 888888888P" 888
d88P 888 888 888 888 888 888 888 888 888
d888888888888 Y88b 888 Y88b. Y88..88P Y88b d88P 888 888
d88P 888 "Y88888 "Y888 "Y888P" "Y88888P88 888 888
                                                 v0.1.0

[2024-02-14 21:41:19,645] [INFO] Agent server starting on http://localhost:8000
```

(6) 打开网址，登录GitHub授权



(7) 最终界面



至此，你自己的AutoGPT环境就搭建成功了，可以在此基础上定义自己的AutoGPT逻辑了。注意，上面的仅是环境和代码框架搭建成功，虽然有界面，但是并不具备大模型应用的能力，需要自己填充逻辑。

如果觉得本文对你有帮助，麻烦点个赞和关注呗 ~~~

大家好，我是【同学小张】。持续学习，持续干货输出，关注我，跟我一起学AI大模型技术！



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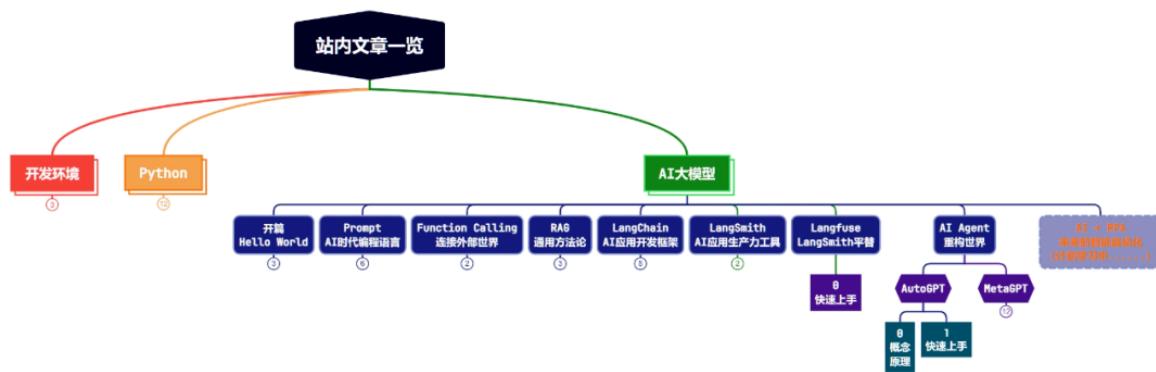
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有任何问题，欢迎+vx: `jasper_8017`，期待与志同道合的朋友一起讨论，共同进步！

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