

DeepSeek-r1

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Demo Environment

Development Boards: Jetson Nano

SD (TF) card/U disk: 64G

It is recommended to run the 4B and below parameter models

DeepSeek-r1 is an open source Large Language Model (LLM) designed by DeepSeek for understanding and generating code.

Model scale

Model	Parameter
DeepSeek-r1	1.5B
DeepSeek-r1	7B
DeepSeek-r1	8B
DeepSeek-r1	14B

Jetson Nano: Can only use DeepSeek-r1 model with 1.5B parameters!

Update Ollama version

Using the installation command will automatically update the ollama version, which takes a long time. It depends on your network:

```
curl -fsSL https://ollama.com/install.sh | sh
```

```
jetson@jetson-desktop: ~  
jetson@jetson-desktop:~$ ollama -v  
ollama version is 0.1.48  
Warning: client version is 0.5.11  
jetson@jetson-desktop:~$ curl -fsSL https://ollama.com/install.sh | sh  
>>> Installing ollama to /usr/local  
[sudo] password for jetson:  
>>> Downloading Linux arm64 bundle  
##### 100.0%  
WARNING: Unsupported JetPack version detected. GPU may not be supported  
>>> Adding ollama user to video group...  
>>> Adding current user to ollama group...  
>>> Creating ollama systemd service...  
>>> Enabling and starting ollama service...  
>>> NVIDIA JetPack ready.  
>>> The Ollama API is now available at 127.0.0.1:11434.  
>>> Install complete. Run "ollama" from the command line.  
jetson@jetson-desktop:~$
```

It will show that the installation is complete. When checking the version of ollam, it will show a correct version, and the version greater than 0.1.48 will be updated.

```
jetson@jetson-desktop: ~  
jetson@jetson-desktop:~$ ollama -v  
ollama version is 0.5.11  
jetson@jetson-desktop:~$  
jetson@jetson-desktop:~$
```

Using DeepSeek-r1

Run DeepSeek-r1

When using the large language model image provided by Yabo Intelligence, please note that the DeepSeek-R1 model is not pre-installed in the image. You can automatically download and install the DeepSeek-R1 model by running the following command. After running the command, the system will automatically enter the dialogue interface:

```
ollama run deepseek-r1:1.5b
```

```
jetson@jetson-desktop: ~  
jetson@jetson-desktop:~$  
jetson@jetson-desktop:~$ ollama run deepseek-r1:1.5b  
pulling manifest  
  
pulling manifest  
  
pulling manifest  
  
pulling manifest  
  
pulling manifest  
  
pulling manifest  
  
pulling manifest  
  
pulling manifest  
  
pulling manifest
```

Wait for the automatic pull to complete, and then enter the dialogue interface automatically.

```
jetson@jetson-desktop: ~  
  
pulling 369ca498f347... 100% | 387 B  
  
pulling manifest  
pulling aabd4debf0c8... 100% | 1.1 GB  
  
pulling 369ca498f347... 100% | 387 B  
  
pulling manifest  
pulling aabd4debf0c8... 100% | 1.1 GB  
  
pulling 369ca498f347... 100% | 387 B  
  
pulling 6e4c38e1172f... 100% | 1.1 KB  
  
pulling f4d24e9138dd... 100% | 148 B  
  
pulling a85fe2a2e58e... 100% | 487 B  
  
verifying sha256 digest  
writing manifest  
success  
>>> Send a message (/? for help)
```

Have a conversation

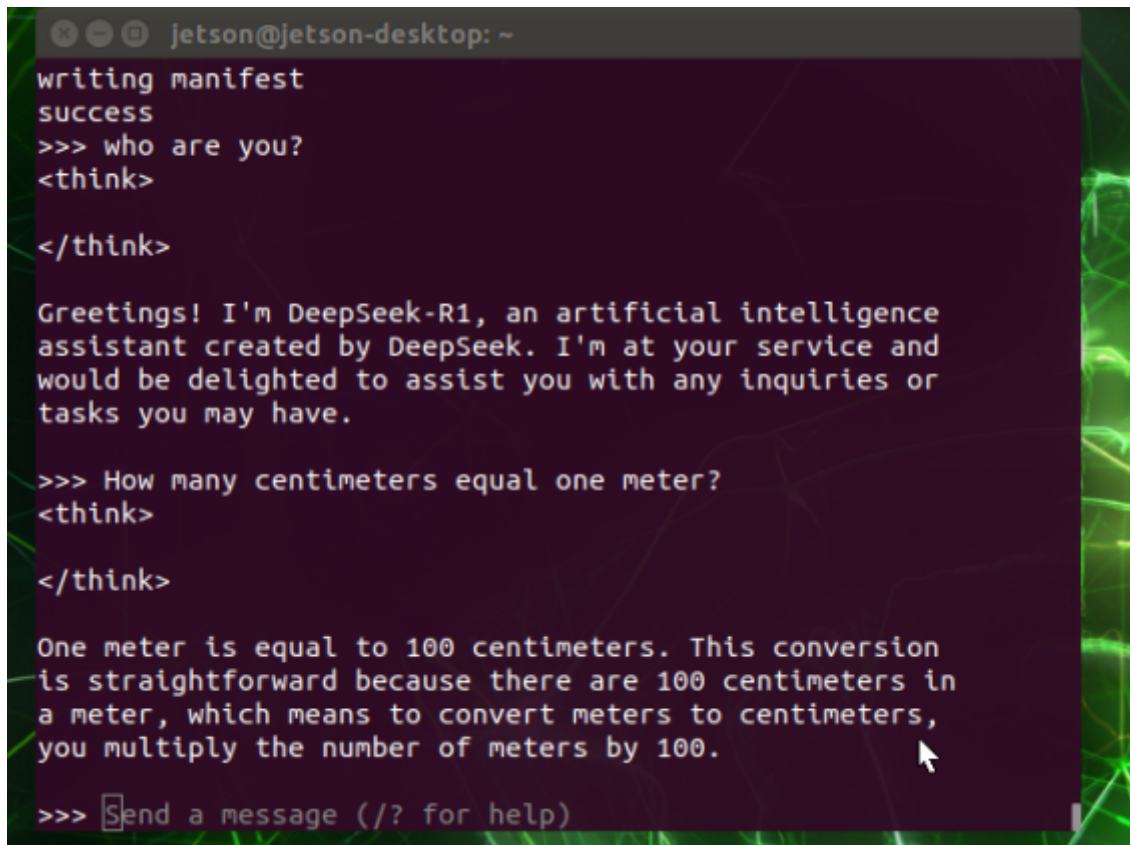
Let the model introduce itself:

who are you?

Consult other issues:

How many centimeters equal one meter?

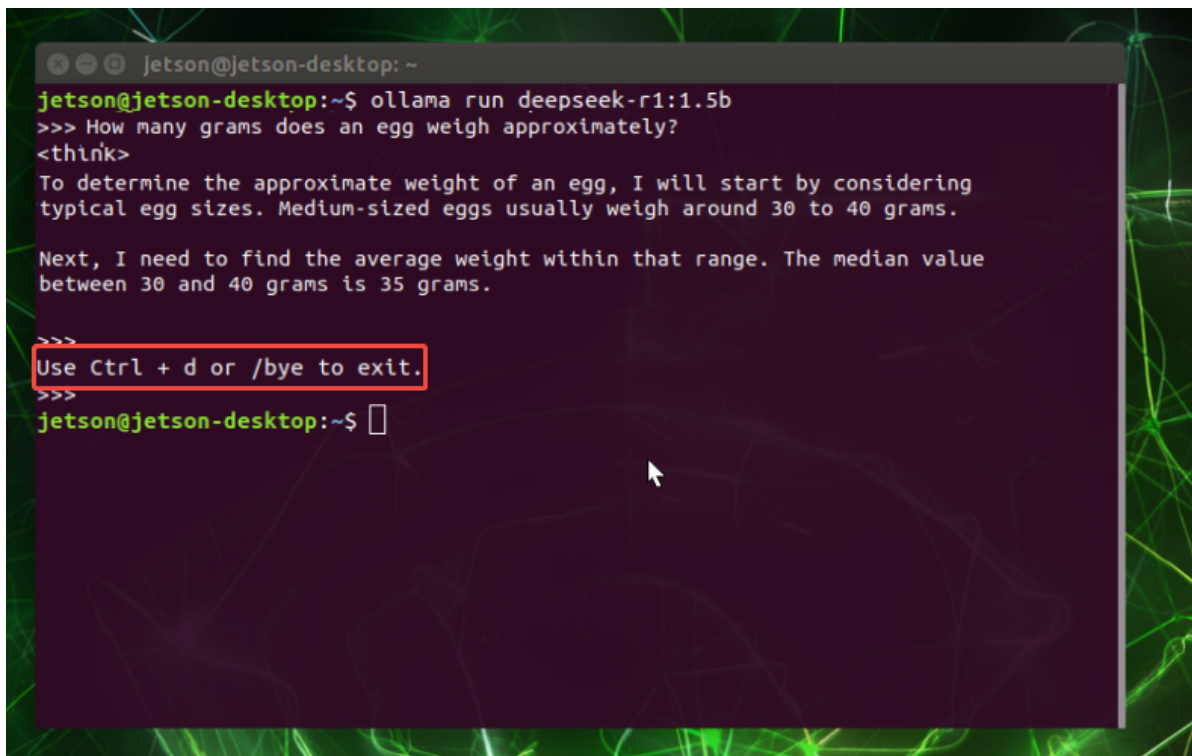
The response time is related to the hardware configuration, please be patient.

A screenshot of a terminal window titled 'Jetson@jetson-desktop: ~'. The terminal shows a conversation with an AI model. The user enters 'writing manifest' and 'success'. Then they ask 'who are you?'. The model responds with '<think>' followed by '</think>' and a greeting: 'Greetings! I'm DeepSeek-R1, an artificial intelligence assistant created by DeepSeek. I'm at your service and would be delighted to assist you with any inquiries or tasks you may have.' The user then asks 'How many centimeters equal one meter?'. The model responds with '<think>' followed by '</think>' and an explanation: 'One meter is equal to 100 centimeters. This conversion is straightforward because there are 100 centimeters in a meter, which means to convert meters to centimeters, you multiply the number of meters by 100.' The prompt 'Send a message (/? for help)' is visible at the bottom.

```
Jetson@jetson-desktop: ~  
writing manifest  
success  
>>> who are you?  
<think>  
  
</think>  
  
Greetings! I'm DeepSeek-R1, an artificial intelligence  
assistant created by DeepSeek. I'm at your service and  
would be delighted to assist you with any inquiries or  
tasks you may have.  
  
>>> How many centimeters equal one meter?  
<think>  
  
</think>  
  
One meter is equal to 100 centimeters. This conversion  
is straightforward because there are 100 centimeters in  
a meter, which means to convert meters to centimeters,  
you multiply the number of meters by 100.  
  
>>> Send a message (/? for help)
```

End the conversation

Use the `Ctrl+d` shortcut or `/bye` to end the conversation!

A terminal window with a dark purple background and green text. The prompt is 'jetson@jetson-desktop: ~'. The command 'ollama run deepseek-r1:1.5b' has been executed. The model responds with 'How many grams does an egg weigh approximately?' followed by a thinking token '<think>'. The response continues: 'To determine the approximate weight of an egg, I will start by considering typical egg sizes. Medium-sized eggs usually weigh around 30 to 40 grams. Next, I need to find the average weight within that range. The median value between 30 and 40 grams is 35 grams.' The prompt 'Use Ctrl + d or /bye to exit.' is highlighted with a red box. The terminal ends with the prompt 'jetson@jetson-desktop: ~\$' and a cursor.

```
jetson@jetson-desktop: ~$ ollama run deepseek-r1:1.5b
>>> How many grams does an egg weigh approximately?
<think>
To determine the approximate weight of an egg, I will start by considering
typical egg sizes. Medium-sized eggs usually weigh around 30 to 40 grams.

Next, I need to find the average weight within that range. The median value
between 30 and 40 grams is 35 grams.

>>> Use Ctrl + d or /bye to exit.
>>>
jetson@jetson-desktop: ~$
```

References

Ollama

Website: <https://ollama.com/>

GitHub: <https://github.com/ollama/ollama>

DeepSeek-R1

Ollama corresponding model: <https://ollama.com/library/deepseek-r1>

GitHub: <https://github.com/deepseek-ai/DeepSeek-r1>