

Gemma3

Gemma3

- 1. Model Size
- 2. Performance
- 3. Using Gemma3
 - 3.1 Running Gemma3
 - 3.2 Start a conversation
 - 3.3 Visual Function
 - 3.4 Ending the Conversation
- References

Demo Environment

Development Board: Jetson Nano

SD (TF) Card: 64GB

Recommended for models with 4B parameters or less

Gemma is a family of lightweight models built by Google based on Gemini technology. Gemma 3 models are multimodal (capable of processing text and images), have a 128K context window, and support over 140 languages.

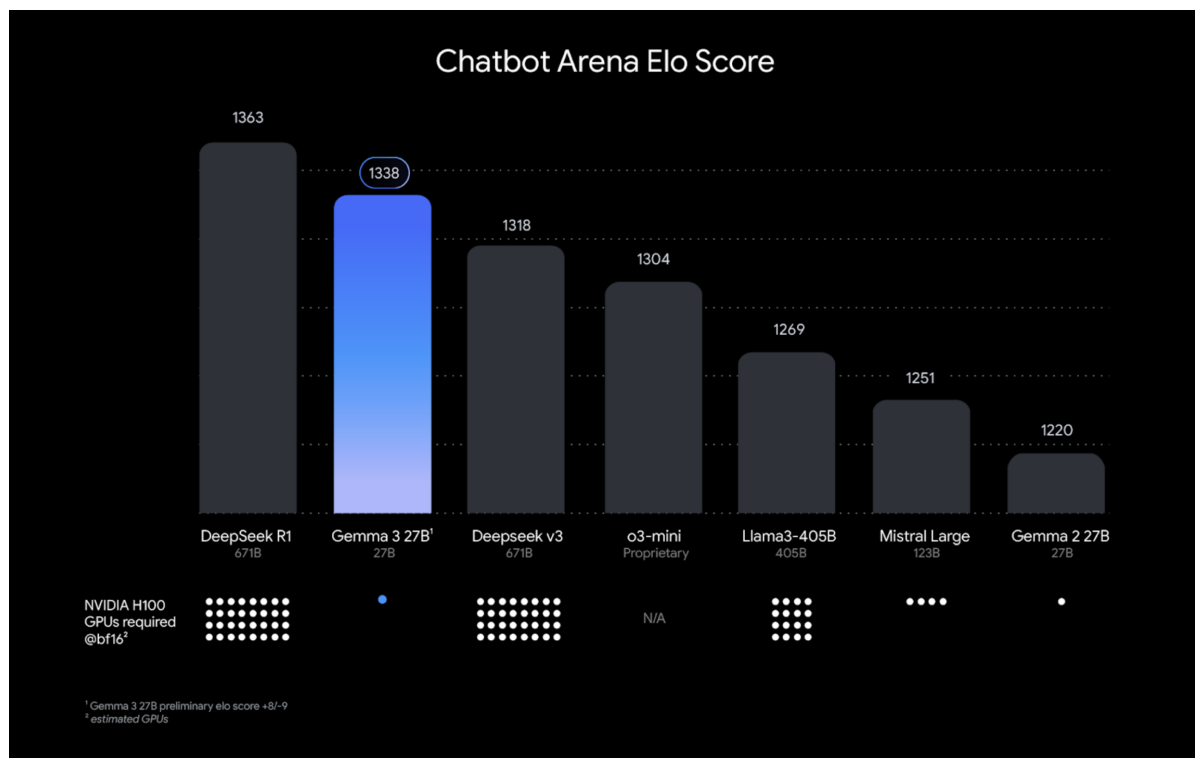
Model Storage Location

/usr/share/ollama/.ollama/models

1. Model Size

Model	Volume
gemma3:1b	815MB
gemma3:4b	3.3GB

2. Performance



3. Using Gemma3

3.1 Running Gemma3

Use the run command to run the model. If the model is not already downloaded, it will automatically pull the model from the Ollama model library:

```
ollama run gemma3:1b
```

```
:~$ ollama run gemma3:4b
pulling manifest
pulling aeda25e63ebd: 100% 3.3 GB
pulling e0a42594d802: 100% 358 B
pulling dd084c7d92a3: 100% 8.4 KB
pulling 3116c5225075: 100% 77 B
pulling b6ae5839783f: 100% 489 B
verifying sha256 digest
writing manifest
success
>>> Send a message (/? for help)
```

3.2 Start a conversation

```
How to learn a programming language?
```

Response time depends on hardware configuration, so please be patient!

```

>>> How to learn a programming language?
Learning a programming language can feel daunting at first, but with a
structured approach and consistent effort, it's absolutely achievable.
Here's a breakdown of how to learn a programming language effectively,
broken down into stages and with different learning styles in mind:

**1. Choosing Your Language:**

* **Beginner-Friendly Options:**
  * **Python:** Highly recommended for beginners. It has a clean
  syntax, huge community support, and is used in many fields (web
  development, data science, scripting).
  * **JavaScript:** Essential for web development (front-end and
  increasingly back-end with Node.js).
  * **Scratch:** (Visual, block-based) A fantastic starting point for
  kids and absolute beginners to understand programming concepts without
  worrying about syntax.
* **Consider Your Goals:** What do you want to *do* with programming?
  * **Web Development:** JavaScript, Python (with frameworks like Django
  or Flask), Ruby
  * **Data Science/Machine Learning:** Python, R
  * **Game Development:** C#, C++, Python (with Pygame)
  * **Mobile App Development:** Swift (iOS), Kotlin/Java (Android)

```

3.3 Visual Function

what do you see in this picture? `./test_pic.png`
 #Use ": + image path" in the conversation to enable the model to use its visual
 function and interpret the information in the image.

```

root@kali:~$ ollama run gemma3:4b
>>> What do you see in this picture?:./test_pic.png
Added image './test_pic.png'
Here's a breakdown of what I see in the picture:

* **Main Subject:** A young man is in the foreground, with his eyes
  closed and his head tilted back, seemingly taking a deep breath. He's
  wearing a white tank top and shorts.
* **Background:** The background is a cityscape, likely a rooftop with
  buildings visible. There is a water bottle next to him.
* **Other Person:** There's another man sitting on the right, also
  seemingly relaxed.
* **Sky:** The sky is a vibrant blue with fluffy white clouds.
* **Color Tone:** The image has a slightly warm, saturated color tone,
  giving it a dramatic feel.

This photograph evokes a sense of stillness, perhaps a moment of respite
amidst a busy urban environment. It's a strong, visually compelling image.

>>> Send a message (/? for help)

```

3.4 Ending the Conversation

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

References

Ollama

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

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

 Gemma3

Ollama Compatible Model: <https://ollama.com/library/gemma3>