August 22, 2023

GPT-3.5 Turbo fine-tuning and API updates

Developers can now bring their own data to customize GPT-3.5 Turbo for their use cases.

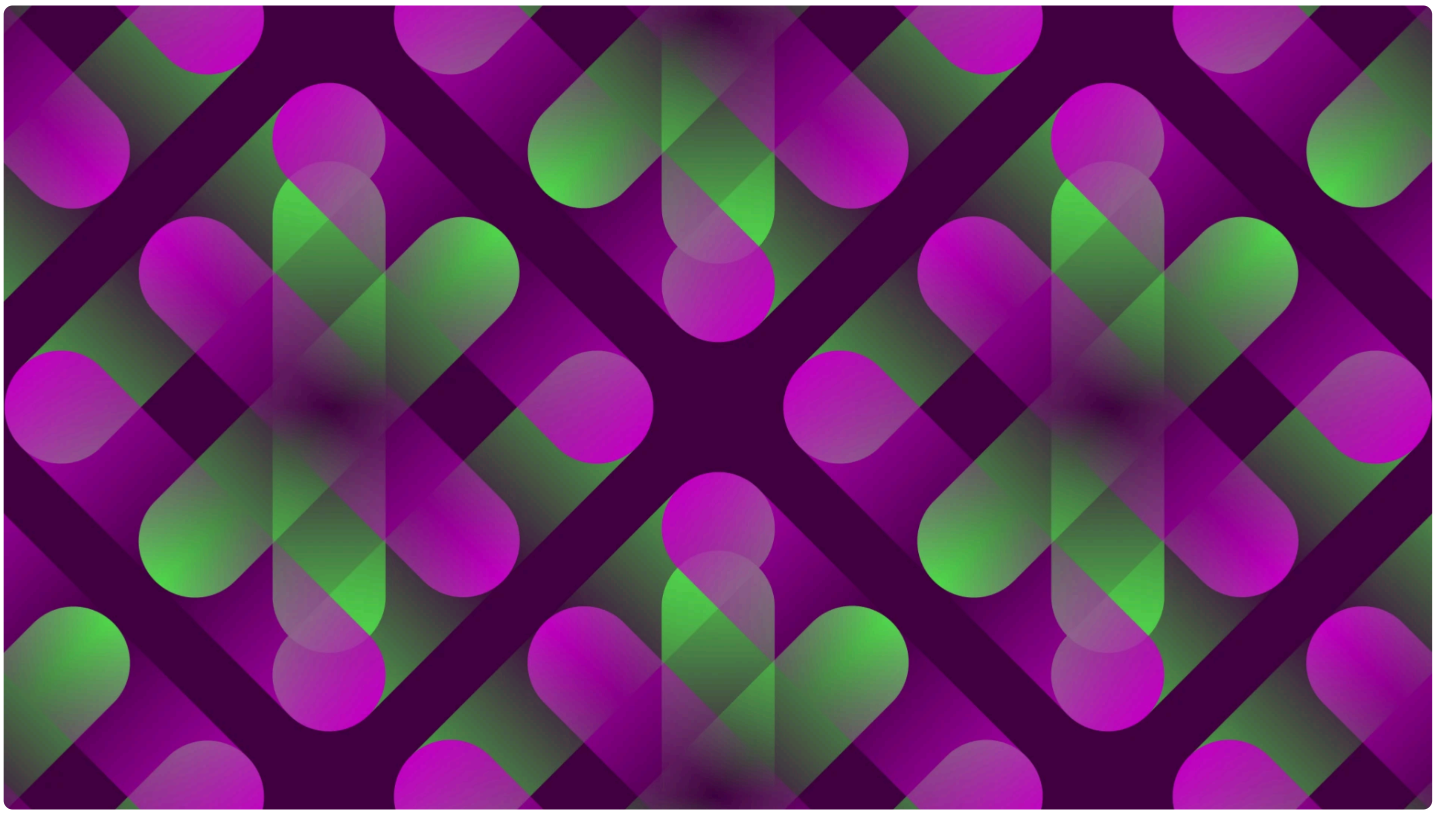

Illustration: Ruby Chen

Fine-tuning for GPT-3.5 Turbo is now available, with fine-tuning for GPT-4 coming this fall. This update gives developers the ability to customize models that perform better for their use cases and run these custom models at scale. Early tests have shown a fine-tuned version of GPT-3.5 Turbo can match, or even outperform, base GPT-4-level capabilities on certain narrow tasks. As with all our APIs, data sent in and out of the fine-tuning API is owned by the customer and is not used by OpenAI, or any other organization, to train other models.

Fine-tuning use cases

Since the release of GPT-3.5 Turbo, developers and businesses have asked for the ability to customize the model to create unique and differentiated experiences for their users. With this launch, developers can now run supervised fine-tuning to make this model perform better for their use cases.

In our private beta, fine-tuning customers have been able to meaningfully improve model performance across common use cases, such as:

- **Improved steerability**: Fine-tuning allows businesses to make the model follow instructions better, such as making outputs terse or

Fine-tuning use cases

German when prompted to use that language.

- **Reliable output formatting:** Fine-tuning improves the model's ability to consistently format responses—a crucial aspect for applications demanding a specific response format, such as code completion or composing API calls. A developer can use fine-tuning to more reliably convert user prompts into high-quality JSON snippets that can be used with their own systems.
- **Custom tone:** Fine-tuning is a great way to hone the qualitative feel of the model output, such as its tone, so it better fits the voice of businesses' brands. A business with a recognizable brand voice can use fine-tuning for the model to be more consistent with their tone.

In addition to increased performance, fine-tuning also enables businesses to **shorten their prompts** while ensuring similar performance. Fine-tuning with GPT-3.5-Turbo can also handle 4k tokens—double our previous fine-tuned models. Early testers have reduced prompt size by up to 90% by fine-tuning instructions into the model itself, speeding up each API call and cutting costs.

Fine-tuning is most powerful when combined with other techniques such as prompt engineering, information retrieval, and function calling. Check out our fine-tuning guide to learn more. Support for fine-tuning with function calling and `gpt-3.5-turbo-16k` will be coming later this fall.

Fine-tuning steps

Step 1
Prepare your data

Step 2
Upload files

Step 3
Create a fine-tuning job

Once a model finishes the fine-tuning process, it is available to be used in production right away and has the same shared rate limits as the underlying model.

Step 4
Use a fine-tuned model

We will also be debuting a fine-tuning UI in the near future, which will give developers easier access to information about ongoing fine-tuning jobs, completed model snapshots, and more.

Safety

It is very important to us that the deployment of fine-tuning is safe. To preserve the default model's safety features through the fine-tuning process, fine-tuning training data is passed through our Moderation API and a GPT-4 powered moderation system to detect unsafe training data that conflict with our safety standards.

Pricing

Fine-tuning costs are broken down into two buckets: the initial training cost and usage cost:

- Training: $0.008 / 1K Tokens
- Usage input: $0.012 / 1K Tokens
- Usage output: $0.016 / 1K Tokens

For example, a `gpt-3.5-turbo` fine-tuning job with a training file of 100,000 tokens that is trained for 3 epochs would have an expected cost of $2.40.

Updated GPT-3 models

In July, we announced that the original GPT-3 base models (`ada` , `babbage` , `curie` , and `davinci`) would be turned off on January 4th, 2024. Today, we are making `babbage-002` and `davinci-002` available as replacements for these models, either as base or fine-tuned models. Customers can access those models by querying the Completions API.

These models can be fine-tuned with our new API endpoint `/v1/fine_tuning/jobs` . This new endpoint offers pagination and more extensibility to support the future evolution of the fine-tuning API. Transitioning from `/v1/fine-tunes` to the updated endpoint is straightforward and more details can be found in our new fine-tuning guide. This deprecates the old `/v1/fine-tunes` endpoint, which will be turned off on January 4th, 2024.

Pricing for base and fine-tuned GPT-3 models is as follows:

	Base models		Fine-tuned models		
Model	**Input tokens**	**Output tokens**	**Training**	**Input tokens**	**Output tokens**
babbage-002	$0.0004 / 1K tokens	$0.0004 / 1K tokens	$0.0004 / 1K tokens	$0.0016 / 1K tokens	$0.0016 / 1K tokens
davinci-002	$0.002 / 1K tokens	$0.002 / 1K tokens	$0.006 / 1K tokens	$0.012 / 1K tokens	$0.012 / 1K tokens

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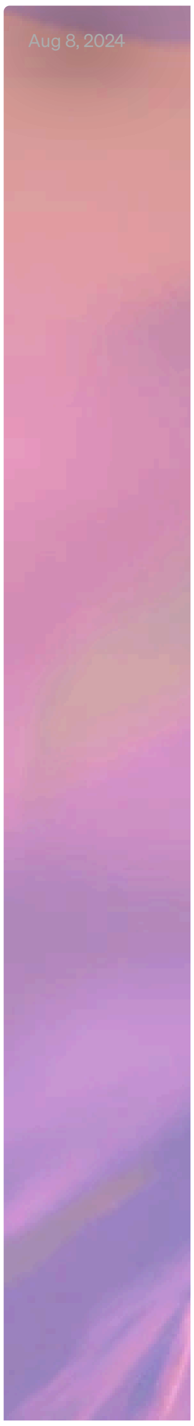

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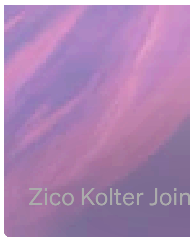

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