

Building a Copilot for Dunder Mifflin

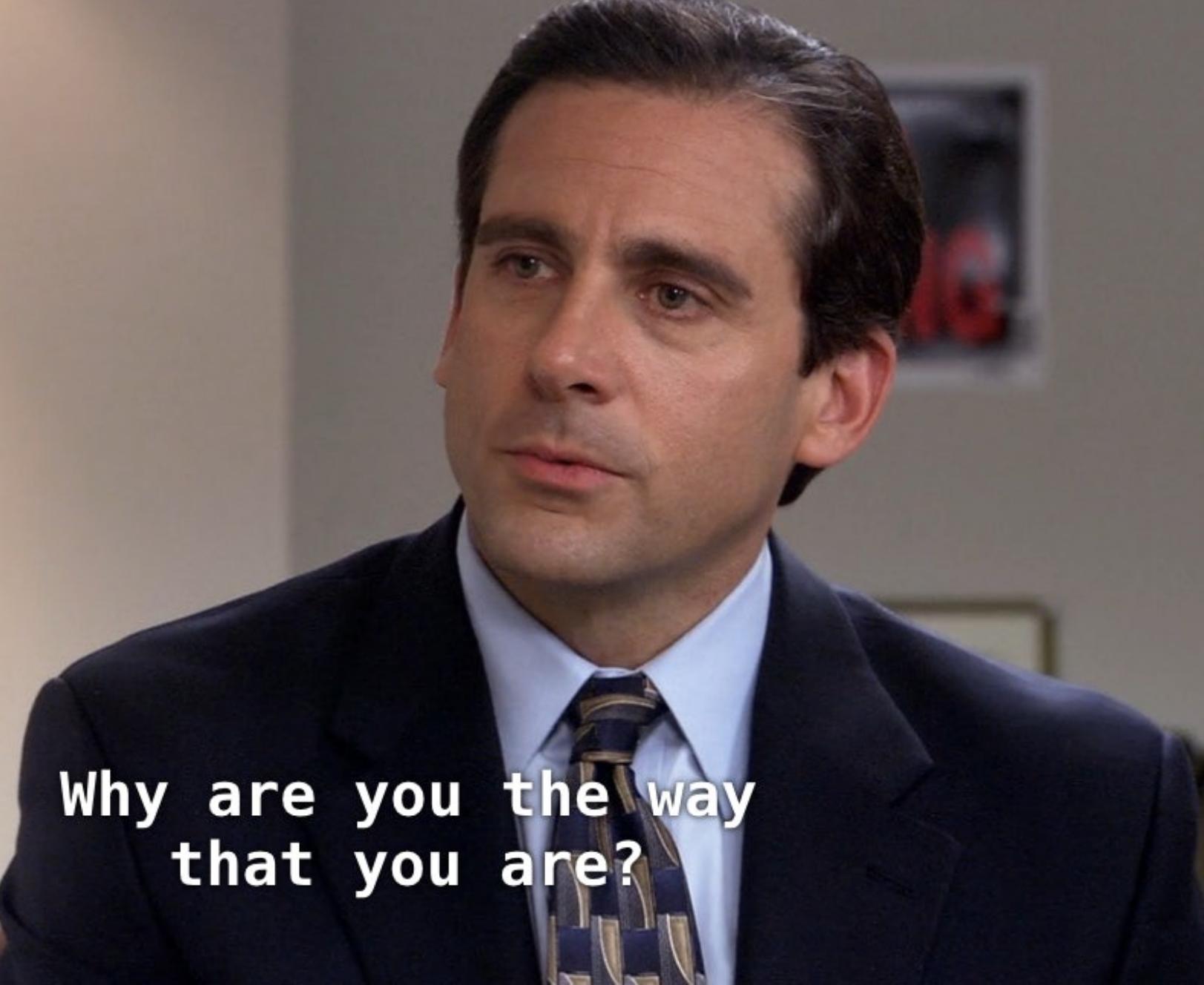


@stuartvdlee







A close-up shot of Michael Scott, played by Steve Carell, from the TV show "The Office". He is wearing a dark blue suit jacket, a white shirt, and a blue and gold striped tie. He has a serious expression and is looking slightly to his left. The background shows an office environment with a yellow wall on the left and a framed picture on the right.

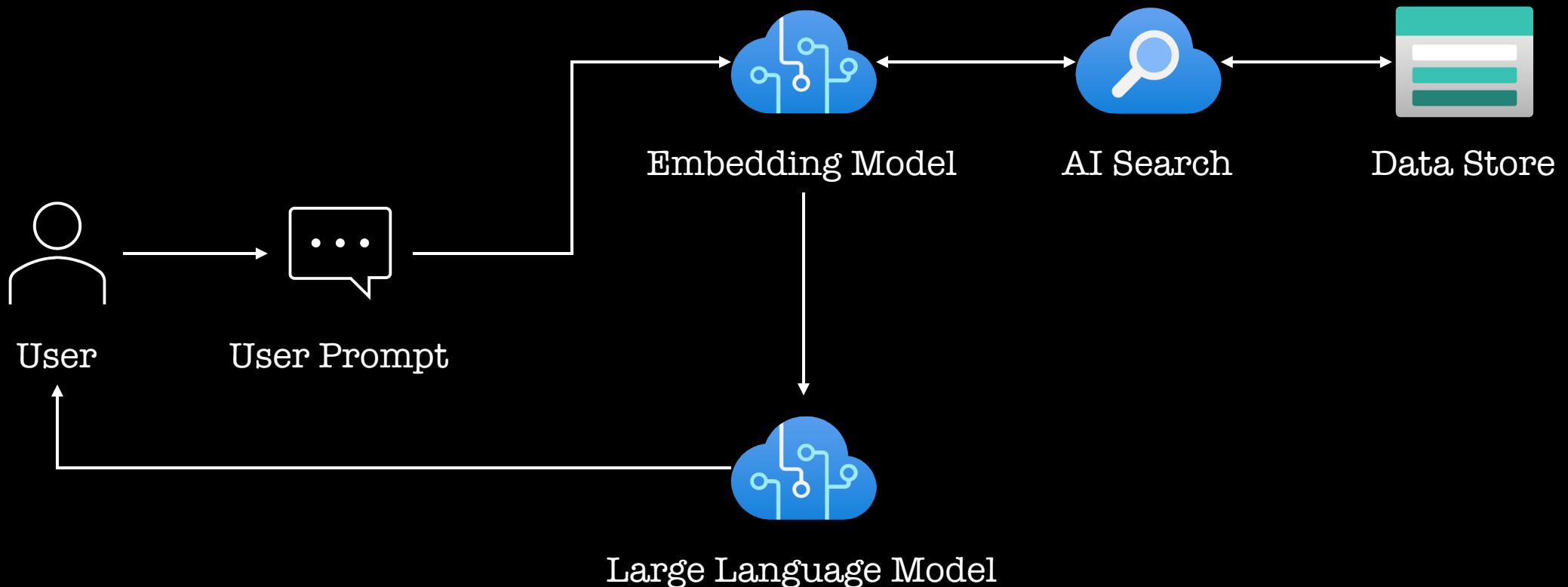
Why are you the way
that you are?

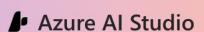


"Sometimes I'll start a sentence and
I don't even know where it's going.
I just hope I find it along the way."

Michael Scott
Large Language Model

Retrieval Augmented Generation





Create innovative AI solutions

Build, evaluate, and deploy your AI solutions all within one space

Discover what you can do with AI



Azure OpenAI

Build custom AI assistants with the Assistants API

Speed up development of GPT-powered AI assistants with prebuilt conversation state management and customization tools.

[Build your AI Assistant](#)

[Or Open in GitHub](#)

Build your own copilot with Azure AI on your data

Ground your own data on advanced AI models to create conversational copilots that aid user comprehension, task completion, and decision making.

[Build your own copilot](#)

[Or Open in GitHub](#)

Incorporate multi-modality

Give your app the ability to see, hear, and speak by pairing Azure OpenAI with speech and vision models to enable richer interactions.

[Build multimodality into your app](#)

[Or Open in GitHub](#)

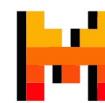
Azure AI SDK

Use your favorite frameworks and editors that allow you to work in your preferred code environments with direct access to Azure AI.

[Learn about the AI SDK](#)

[Or Open a sample](#)

Explore cutting-edge models



Mistral Large is now available!

Mistral Large, the best Mistral model yet, available first on Azure.

[View model in the model catalog](#)

Browse the model catalog

Explore and test thousands of large AI models from Microsoft, OpenAI, Meta

Try Azure OpenAI

Leverage the scale of large language models (LLMs) to power your solution's AI

+ New AI project Refresh Delete project Reset view

Create a project

- ✓ Project details
- ✓ Create an AI hub
- Review and finish

Review and finish

The following resources will be created for you, along with required dependencies. The creation of the first resource and project may take a few minutes to complete. [Learn more about AI hubs and dependencies](#).

Azure AI hub

Name: dundermifflin-aih
Subscription: Visual Studio Enterprise Subscription – MPN
Resource group: dundermifflin-rg
Location: swedencentral

AI project

Name: dundermifflin-aip
Subscription: Visual Studio Enterprise Subscription – MPN
Resource group: dundermifflin-rg

Azure OpenAI

Name: dundermifflin-oai

Azure AI Search

Name: dundermifflin-srch

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Create an AI project

Cancel

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[dundermifflin-rg](#) Resource group

Search [Create](#) [Manage view](#) [Delete resource group](#) [Refresh](#) [Export to CSV](#) [Open query](#) [Assign tags](#) [Move](#) [Delete](#) [Export template](#) [Open in mobile](#)

[Overview](#) [Essentials](#) [JSON View](#)

Subscription ([move](#)) : [Visual Studio Enterprise Subscription – MPN](#) Deployments : [1 Succeeded](#)
Subscription ID : 0b591c60-d532-468e-bb7f-a9e778cdd8aa Location : Sweden Central
[Tags \(edit\)](#) : [Add tags](#)

[Activity log](#) [Access control \(IAM\)](#) [Tags](#) [Resource visualizer](#) [Events](#)

[Resources](#) [Recommendations](#)

Filter for any field... Type equals all × Location equals all × [+ Add filter](#)

Showing 1 to 7 of 7 records. Show hidden types ⓘ

<input type="checkbox"/> Name ↑	Type ↑	Location ↑↓	⋮
appi-dundermifflinaih143031066090	Application Insights	Sweden Central	⋮
apws-dundermifflinaih143031066090	Log Analytics workspace	Sweden Central	⋮
dundermifflin-aih	Azure AI	Sweden Central	⋮
dundermifflin-oai143031066090	Azure OpenAI	Sweden Central	⋮
dundermifflin-srch	Search service	Sweden Central	⋮
kv-dundermi143031066090	Key vault	Sweden Central	⋮
stdundermiff143031066090	Storage account	Sweden Central	⋮

No grouping [List view](#)

[Settings](#)

[Deployments](#) [Security](#) [Deployment stacks](#) [Policies](#) [Properties](#) [Locks](#)

[Cost Management](#)

[Cost analysis](#) [Cost alerts \(preview\)](#) [Budgets](#) [Advisor recommendations](#)

[Monitoring](#)

[Insights \(preview\)](#) [Alerts](#) [Metrics](#) [Diagnostic settings](#) [Logs](#) [Advisor recommendations](#) [Workbooks](#)

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Connect, create, or manage your data

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Add your data

- 1 Select data
- 2 Name and finish

Select your data

Data source *

Upload files/folders



+ New connection

 Upload files or folder Overwrite if already exists

Upload list

DunderMifflinDataFiles/Orders1.txt 137.23 KB/137.23 KB ...

DunderMifflinDataFiles/Orders2.txt 163.4 KB/163.4 KB ...

DunderMifflinDataFiles/Shippers.txt 130 bytes/130 bytes ...

DunderMifflinDataFiles/.DS_Store 6 KB/6 KB ...

DunderMifflinDataFiles/Employees.txt 6.99 KB/6.99 KB ...

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Add your data



Select data



Name and finish

Name and finish

Data name * ⓘ

dundermifflin-data

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Create indexes to customize generative AI responses

[+ New index](#)[Refresh](#)[Reset view](#)

Create an index

- 1 Source data
- 2 Index storage
- 3 Search settings
- 4 Index settings
- 5 Review and finish

Select your dataset

Select source data you want generative AI to reference

Data source *

[+ Add connection](#) Search[Filter](#)[Columns](#)

Name	Type	Modified on
<input checked="" type="checkbox"/> dundermifflin-data	UriFolder	Apr 3, 2024 8:43 PM

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Index storage

Select where to store your new index

Index storage *

Azure AI Search

Select Azure AI Search service * ⓘ

AzureAISearch

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Create an index

- Source data
- Index storage
- Search settings
- Index settings
- Review and finish

Configure search settings

Combining hybrid retrieval with semantic ranking (Hybrid + Semantic) gives most accurate search results for generative AI applications. To generate vector index, embedding model is required.

Vector settings

Add vector search to this search resource

Azure OpenAI resource * ⓘ

Default_AzureOpenAI

I acknowledge that Azure OpenAI embedding model, **text-embedding-ada-002 (Version 2)**, will be deployed if not already.

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Create an index

- Source data
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- 4 Index settings
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Index settings

Configure your index

Index name * ⓘ

dundermifflin-index

Virtual machine * ⓘ

 Auto select Select from recommended options Select from all options[Back](#)[Next](#)[Create](#)[Cancel](#)



All workspaces

Outline



Refresh

Clone

Resubmit

Publish

Schedule

Show lineage

Show compare list

Delete

Cancel



Share



Add to compare



33770089-4eb2-4008-89c5-2e697c841a77



Completed



Share



Add to compare



+ Add filter

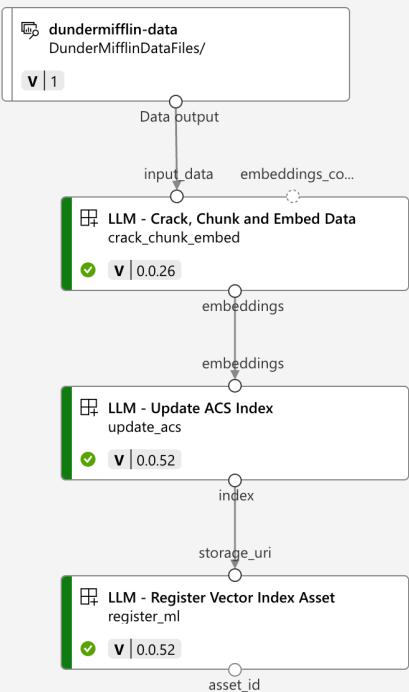
33770089-4eb2-4008-89c5-2e697c...

dundermifflin-data

crack_chunk_embed

update_acs

register_ml



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dundermifflin-aip

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Real-time endpoint

Deploy using the real-time endpoint wizard

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Pay-as-you-go

Deploy using pay-as-you-go managed service

Deployment name	Model version	State	Content filter	Deployment type	Capacity	Rate limit (tokens per minute)	Modified on
text-embedding-ada-002	text-embedding-ada-002	2	Succeeded	Default	Standard	50K TPM	50000

Default AzureOpenAI Connection

Azure OpenAI Connection

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Rate limit (tokens per minute) Modified on

Name	Rate limit (tokens per minute)	Modified on
Default_AzureOpenAI	50000	Apr 3, 2024 8:44 PM

Select a model

Choose a model to create a new deployment. For flows and other resources, create a deployment from their respective list. [Go to model catalog.](#)

Models: 1618

[Collections](#)[Inference tasks](#)[Show description](#) Search gpt-35-turbo-16k 

Chat completions

gpt-4-32k

 Task: Chat completions gpt-35-turbo-instruct 

Chat completions

 gpt-4 

Chat completions

 babbage-002 

Completions

 davinci-002 

Completions

 gpt-35-turbo 

Chat completions

 gpt-4-32k 

Chat completions

 text-embedding-ada-002 

Embeddings

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This model can be deployed for inference, but cannot be finetuned.**Model family: GPT-4**

GPT-4 can solve difficult problems with greater accuracy than any of the previous OpenAI models. Like gpt-35-turbo, GPT-4 is optimized for chat but works well for traditional completions tasks. The gpt-4 supports 8192 max input tokens and the gpt-4-32k supports up to 32,768 tokens.

Learn more at <https://learn.microsoft.com/en-us/azure/cognitive-services/openai/concepts/models>

[Confirm](#)[Cancel](#)

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Columns

Name	Model name	Model version	State	Content filter	Deployment type	Capacity	Rate limit (tokens per minute)	Modified on
Default_AzureOpenAI	Azure OpenAI Connection	text-embedding-ada-002	text-embedding-ada-002			50K TPM	50000	Apr 3, 2024 8:44 PM

Deploy model

Deployment name *

gpt-4-32k

Select model *

gpt-4-32k

Model version

0613 (Default)

Azure OpenAI Connection

Default_AzureOpenAI

Advanced options

[Deploy](#)[Cancel](#)

dundermifflin-aih ◇
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Mode

Chat

System message Add your data Examples[Apply changes](#) [Reset to default](#)**System message**

You are an AI assistant that helps people find information.

[Replay chat](#)[Clear chat](#)[Playground settings](#)[Show JSON](#)

Who is Michael Scott?

Michael Scott is a fictional character in the U.S. television series "The Office." Played by Steve Carell, Michael Scott is the bumbling, well-meaning regional manager of the Scranton, Pennsylvania, branch of Dunder Mifflin Paper Company. He is known for his inappropriate behavior and comments, but also for his deep care and loyalty towards his employees.

Variables

[Add variable](#)

Type user query here. (Shift + Enter for new line)

Deployment Parameters**Deployment** *

gpt-4-32k

Session settings

Past messages included

10

dundermifflin-aih ◇
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Mode

Chat

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Gain insights into your own data source. Your data is stored securely in your Azure subscription. [Learn more about how your data is protected.](#)

Index:

dundermifflin-index

Search type:

Hybrid (vector + keyword)

[Learn more about different search types](#)[Advanced settings >](#) [Remove data source](#)

Deployment Parameters

Deployment *

gpt-4-32k

Session settings

Past messages included ⓘ

10**Start chatting**

Test your assistant by sending queries below. Then adjust your assistant setup to improve the assistant's responses.

Type user query here. (Shift + Enter for new line)

Playground

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Mode Chat

[System message](#) [Add your data](#) [Examples](#)[Apply changes](#) [Reset to default](#)

System message

You are an AI assistant that helps Dunder Mifflin employees find information.[Replay chat](#)[Clear chat](#)[Playground settings](#)[Show JSON](#)[Deployment](#) [Parameters](#)

Deployment *

gpt-4-32k

Session settings

Past messages included

[Variables](#)[Add variable](#)

Start chatting

Test your assistant by sending queries below. Then adjust your assistant setup to improve the assistant's responses.

Type user query here. (Shift + Enter for new line)

dundermifflin-aih ◇
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Mode

Chat

[System message](#) [Add your data](#) [Examples](#)[Apply changes](#) [Reset to default](#)**System message** You are an AI assistant that helps Dunder Mifflin employees find information.[Replay chat](#)[Clear chat](#)[Playground settings](#)[Show JSON](#)

Who is Michael Scott?

Michael Scott is a former employee of Dunder Mifflin. He held the position of Regional Manager. He was born on March 15, 1965, and started working at Dunder Mifflin on May 6, 1992. He left the company on April 28, 2011, but was rehired on April 23, 2009. His address is listed as 14 Garrett Hill, Boulder, CO, 80302, USA, and his home phone number is (303) 555-4848¹.

1 references

Type user query here. (Shift + Enter for new line)

Deployment Parameters**Deployment ***

gpt-4-32k

Session settings

Past messages included

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Mode Chat

System message Add your data Examples

[Replay chat](#) [Clear chat](#) [Playground settings](#) [Show JSON](#)[Apply changes](#) [Reset to default](#)

Who is Michael Scott?

System message [i](#)You are an AI assistant that helps Dunder Mifflin employees find information.

Variables

{X} Add variable

Orchestrate and customize this setup with prompt flow

Your playground setup will be exported to prompt flow, ending this playground session. Any index that was created here can be found in Indexes.

Storage location * [i](#)

Users/stuart/promptflow

Folder name * [i](#)

Flow-created-on-04-03-2024-22-23-49

Open

Cancel

Type user query here. (Shift + Enter for new line)

Deployment Parameters

Deployment *

gpt-4-32k

Session settings

Past messages included [i](#)

10

Build / dundermifflin-aih / dundermifflin-aih / Flows / Flow-created-on-04-03-2024-22-23-49

[Open project in VS Code \(Web\)](#)

Evaluate ▾ Chat

Custom evaluation
Built-in evaluation

Flow

+ LLM + Prompt + Python + More tools Raw file mode Wrap text Diff mode

Inputs ⓘ

Name	Type	Value	Chat input	Tag	Action
chat_history	list	[]			Show description
query	string	Please input content in chat box		○	

+ Add input

Outputs ⓘ

Name	Value	Chat output	Action
reply	\$(FormatReply.output)	○	
search_intents	\$(ExtractIntent.output.search_intents)	○	
fetched_docs	\$(FormatRetrievedDocuments.output)	○	
current_query_i	\$(ExtractIntent.output.current_message_intent)	○	

+ Add output

DetermineIntent ⓘ ILM

Connection: Default_AzureOpenAI API: chat

deployment_name: gpt-4-32k temperature: 0 stop: max_tokens: 800

Show variants Generate variants

> Advanced

> Function calling

< Prompt ⓘ Referring to: [DetermineIntent.jinja2](#)

1 system:

```

graph TD
    inputs((inputs)) --> DetermineIntent[DetermineIntent]
    DetermineIntent --> ExtractIntent[ExtractIntent]
    DetermineIntent --> FormatConversation[FormatConversation]
    ExtractIntent --> RetrieveDocuments[RetrieveDocuments]
    FormatConversation --> FormatRetrievedDocuments[FormatRetrievedDocuments]
    RetrieveDocuments --> FormatRetrievedDocuments
    FormatRetrievedDocuments --> DetermineReply[DetermineReply]
    DetermineReply --> FormatReply[FormatReply]
    FormatReply --> outputs((outputs))
  
```

Build / dundermifflin-aih / dundermifflin-aip / Evaluation / Create a new evaluation

dundermifflin-aip

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Create a new evaluation

1 Basic information

2 Select metrics

3 Configure test data

4 Review and finish

Add basic information

Evaluation name *

What kind of scenario are you evaluating? *

Question and answer with context
Evaluate single-turn question and answer pairs with context.
[Download data template](#)

Question and answer without context
Evaluate single-turn question and answer pairs without context.
[Download data template](#)

Conversation with context
Evaluate a single-turn or multi-turn conversation with retrieved documents.
[Download data template](#)

Select a flow to evaluate (optional)

Which flow do you want to evaluate?



dundermifflin-aih ▾

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Create a new evaluation

Basic information

Select metrics

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Review and finish

Select metrics

[Learn more about Microsoft-curated evaluator metrics](#)

Performance and quality metrics curated by Microsoft

Groundedness

 Measures how well the model's generated answers align with information from the input source.

Coherence

 Measures how well the language model can produce output that flows smoothly, reads naturally, and resembles human-like language.

Relevance

 Measures the extent to which the model's generated responses are pertinent and directly related to the given questions.

Fluency

 Measure the language proficiency of a generative AI's predicted answer.

Retrieval score

 Select if you want to measure the quality and relevance of the retrieved document to your question

Connection

Default_AzureOpenAI ▾

Provider

AzureOpenAI

Deployment name/Model

gpt-4-32k ▾

Risk and safety metrics curated by Microsoft

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Create a new evaluation

- ✓ Basic information
- ✓ Select metrics
- Configure test data
- ④ Review and finish

Configure test data

Select configuration test data to evaluate *

Use existing dataset

Choose from your established dataset collection

Add your dataset

Input manually or upload a file

How do you want to add new dataset? *

Upload file

Drag and drop
CSV or JSONL file here

Upload file

Preview of top 3 rows from your dataset

messages

role: user, content: Who is Michael Scott?, role: assistant, content: Michael Scott is listed as an employee at Dunder Mifflin. His employee record shows that he holds the title of Regional Manager. He was born on March 15, 1965 and ...

role: user, content: Do we have any clients in Gotham City?, content: Yes, we have a client in Gotham City. The client is Wayne Enterprises, Inc., located at 1007 Mountain Drive., role: assistant, context: citations: id: 12345abcde, title: In...

role: user, content: Do we have customers in Malibu?, content: Yes, we have a customer in Malibu. The customer is Stark Industries, with the contact person being Tony Stark, the owner. The address is 10880 Malibu Point, Malibu, CA, ...

Dataset mapping for prompt flow * ⓘ

Name	Type	Value
chat_history	list	\$(data.messages)
query	string	\$(data.messages)

Dataset mapping for evaluation * ⓘ

Name	Description	Type	Data source
messages		list	\$(data.messages)

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dundermifflin-aip

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Assess and compare AI application performance

[Metric evaluations](#) [Manual evaluations](#)Evaluate your model performance with industry standard metrics to compare and choose the best version based on your need. [Learn more about metrics.](#)[+ New evaluation](#)[Refresh](#)[Cancel](#)[Delete](#)[Compare](#) Show batch runs[Switch to dashboard view](#) Search[Filter](#)[Columns](#)

Evaluations	Status	Created on ↓	Groundedness	Relevance	Retrieval score	Coherence	Similarity	Fluency	F1 score	Violence def..
evaluation_great_fig_mdf49fb72b_variant_0	Completed	Apr 3, 2024 10:27 PM	4	--	--	--	--	--	--	--

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evaluation_great_fig_mdf49fb72b_variant_0

Output

Logs

Trace

[View in flow](#)

Detailed metric

[Search](#)[Index](#)

0

1

2

Conversation index: 0

[Search](#)[Filter](#)[Columns](#)

Turn ↑	Input	Output	Context	Groundedn...	Groundedness reasoning
1	Who is Michael Scott?	Michael Scott is listed as an employee at Dunder Mifflin. His employee record shows that he holds the title of Regional Manager. He was born on March 15, 1965 and started working at Dunder Mifflin on ...	▼ { ▼ "citations" : [▶ 0 : { ... }] }	2	'Michael Scott is listed as an employee at Dunder Mifflin.' is ungrounded because the premise does not mention the company name "Dunder Mifflin". It's neutral.'He was born on March 15, 1965 and started working at Dunder Mifflin on May 6, 1992.' is ungrounded because "1965-03-15 1992-05-06". The tagged date [March 15, 1965] is his birth date according to the premise. However, the premise does not mention the company name "Dunder Mifflin". It's neutral.'He left the company on April 28, 2011, but was rehired on April 23, 2009.' is ungrounded because "2011-04-28 2009-04-23". The dates mentioned in the premise indicate that he left the company on April 28, 2011, and there is a date prior to that which is April 23, 2009, but there is no information about rehiring. It's neutral. Collapse

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[Done](#)

Thank you!

