

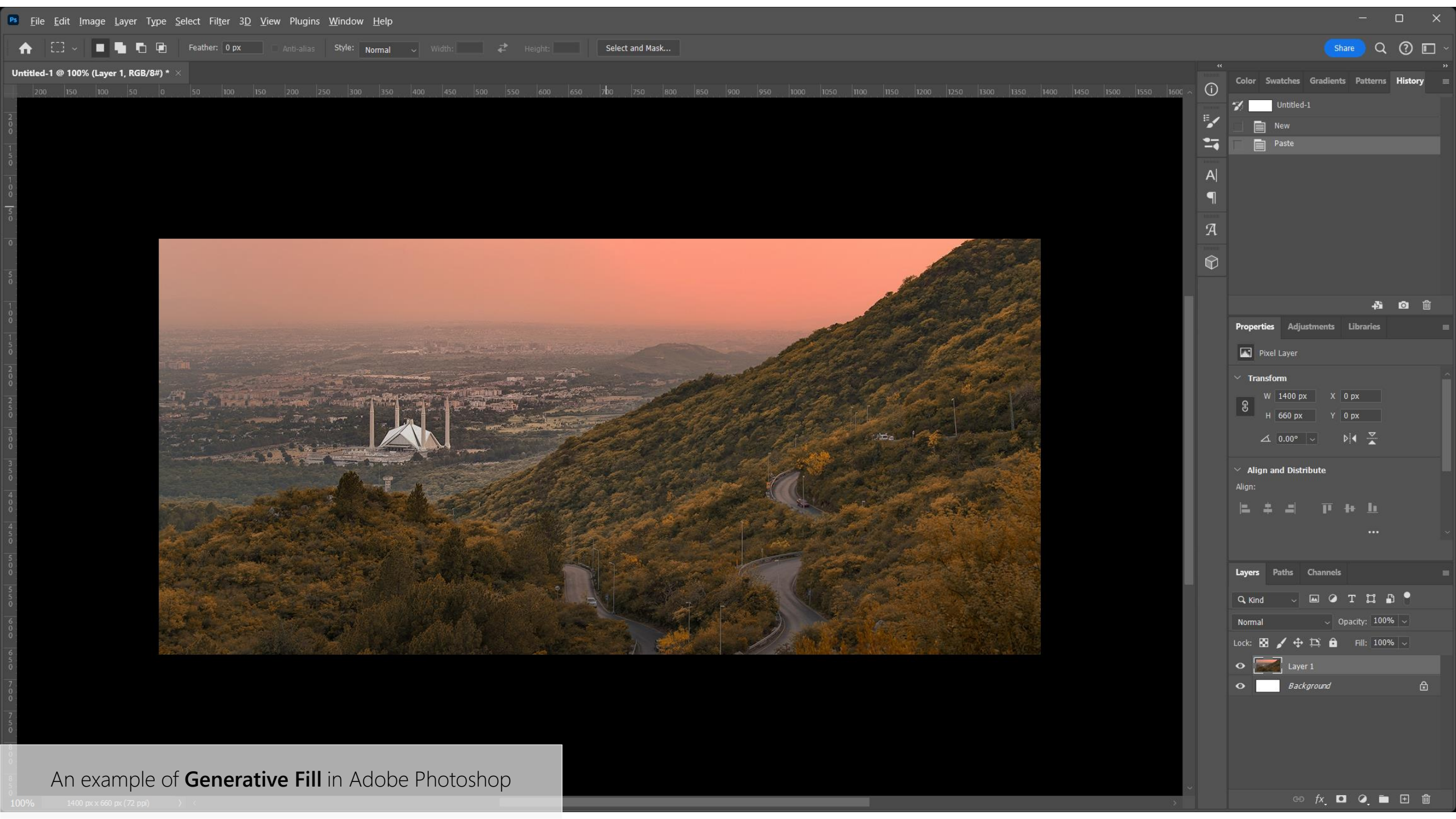


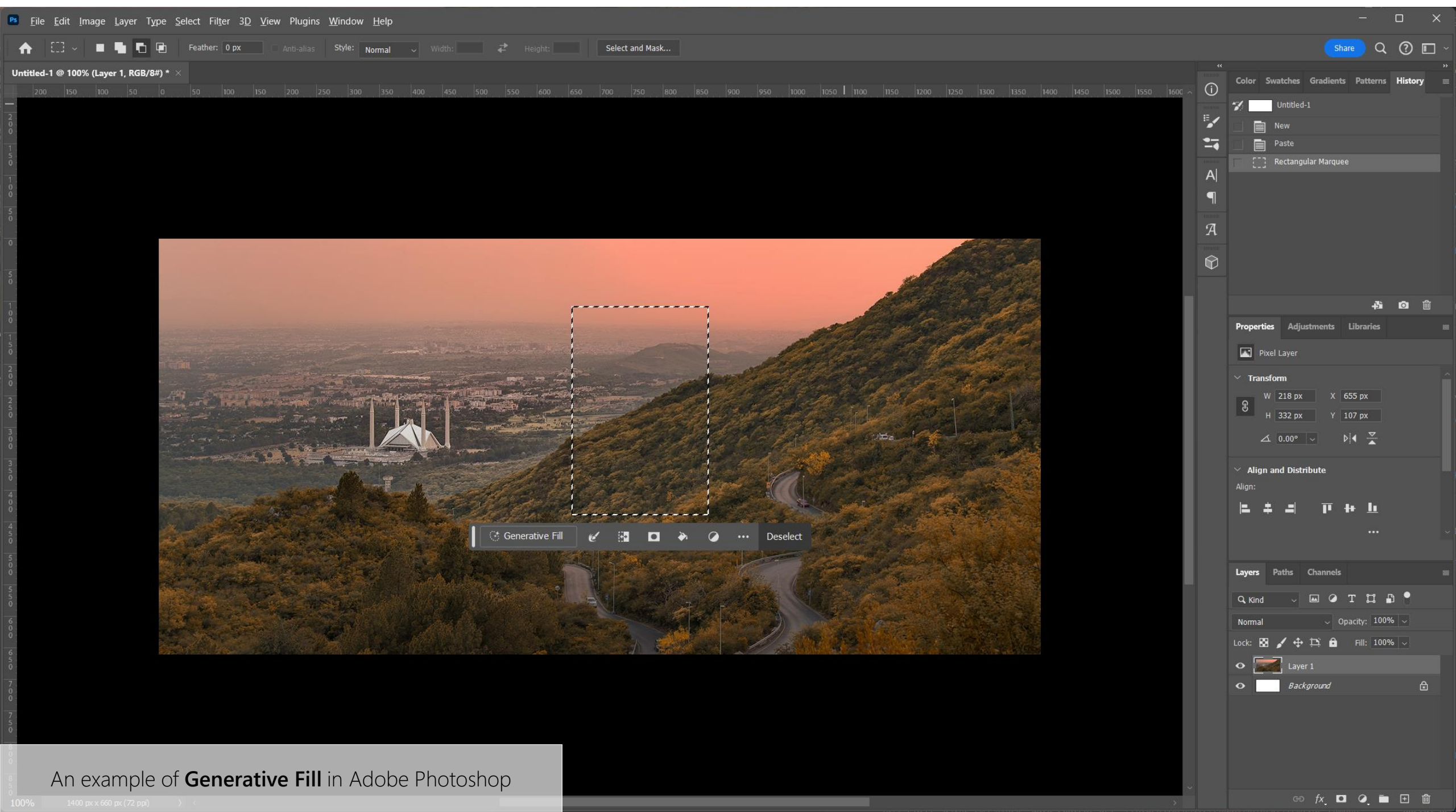
Building Intelligent Apps using **Azure OpenAI** [1/3]

Adnan Hashmi

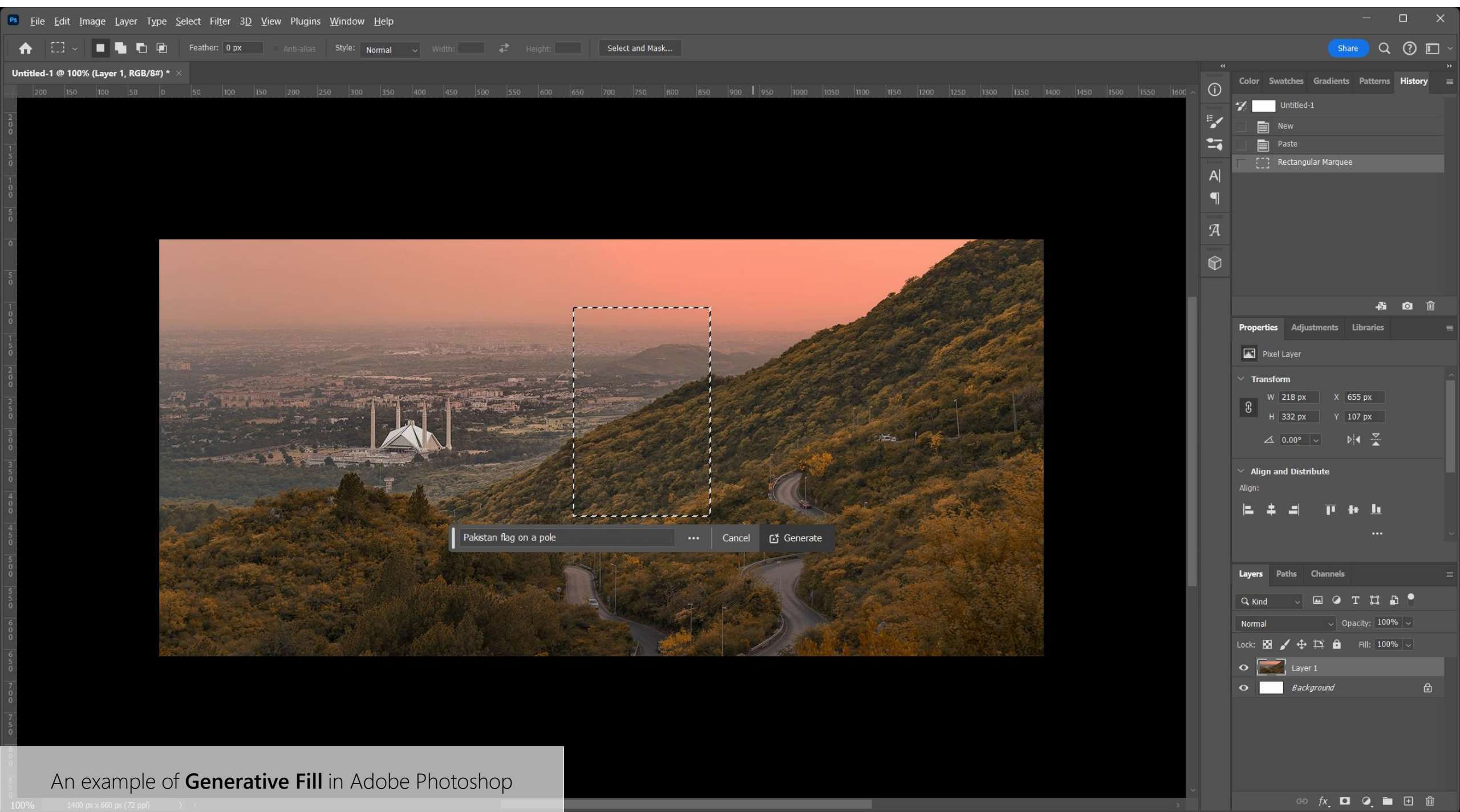
in aka.ms/Adnan

X pkstn.co/Adnan

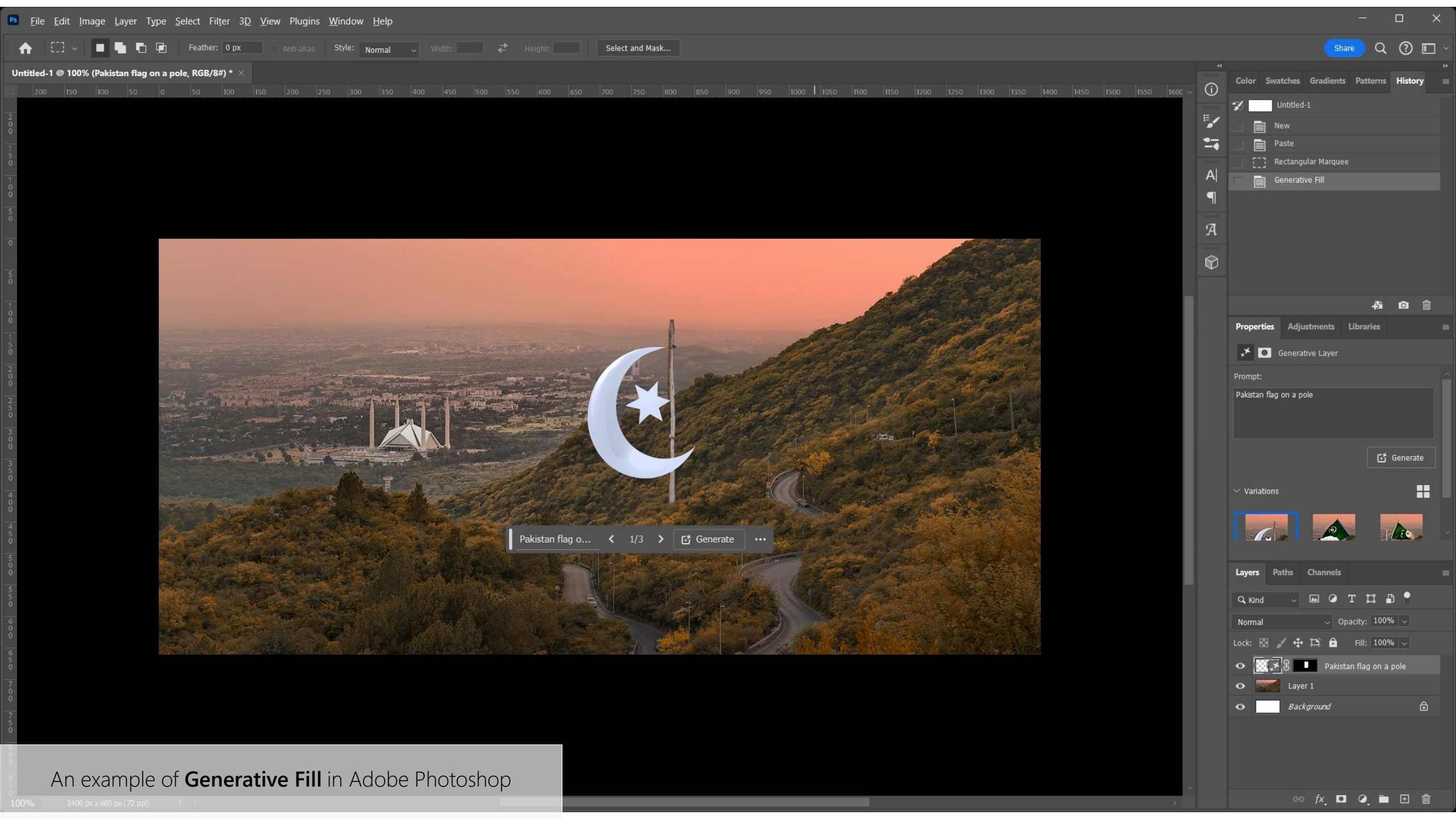




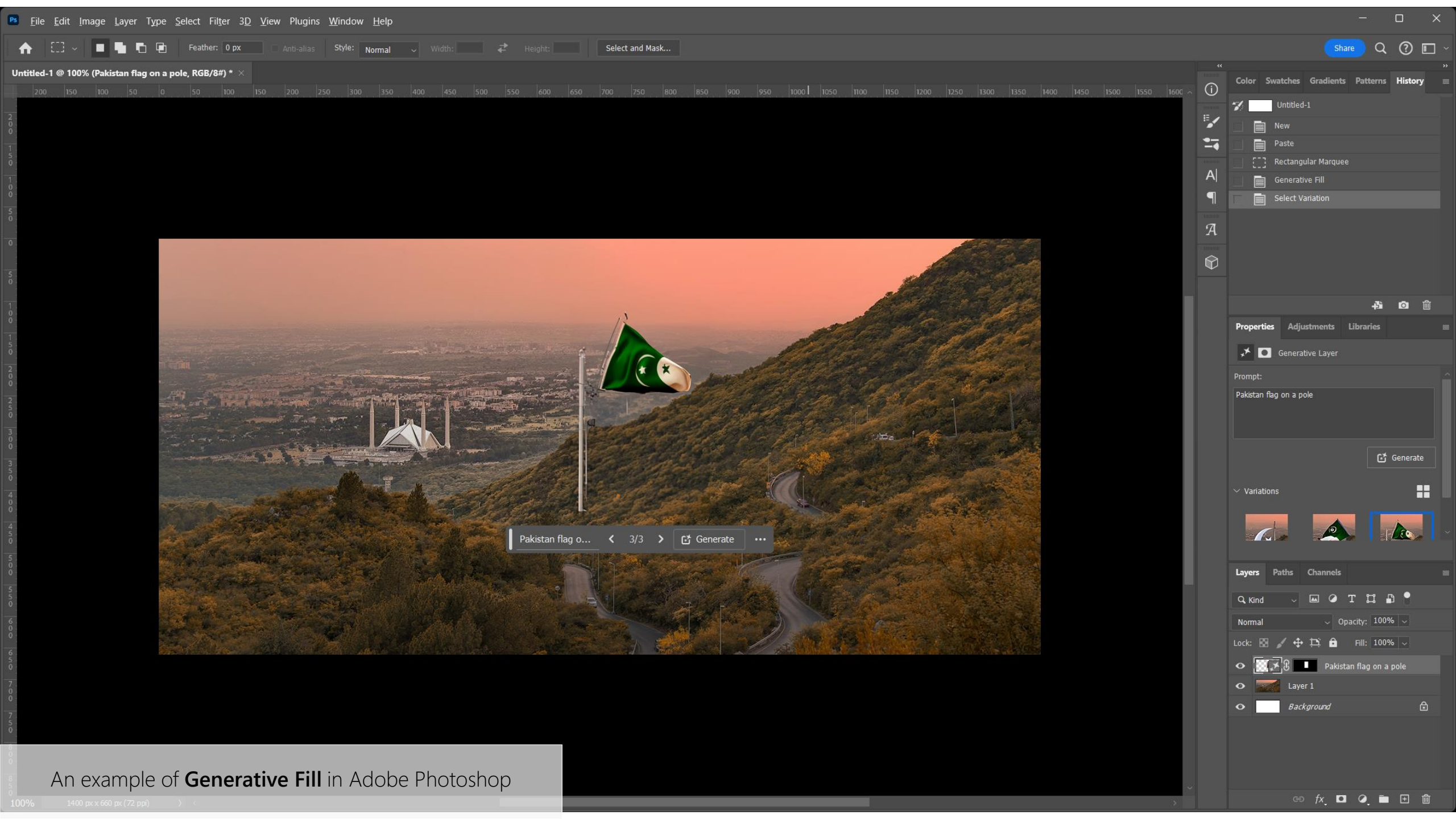
An example of **Generative Fill** in Adobe Photoshop



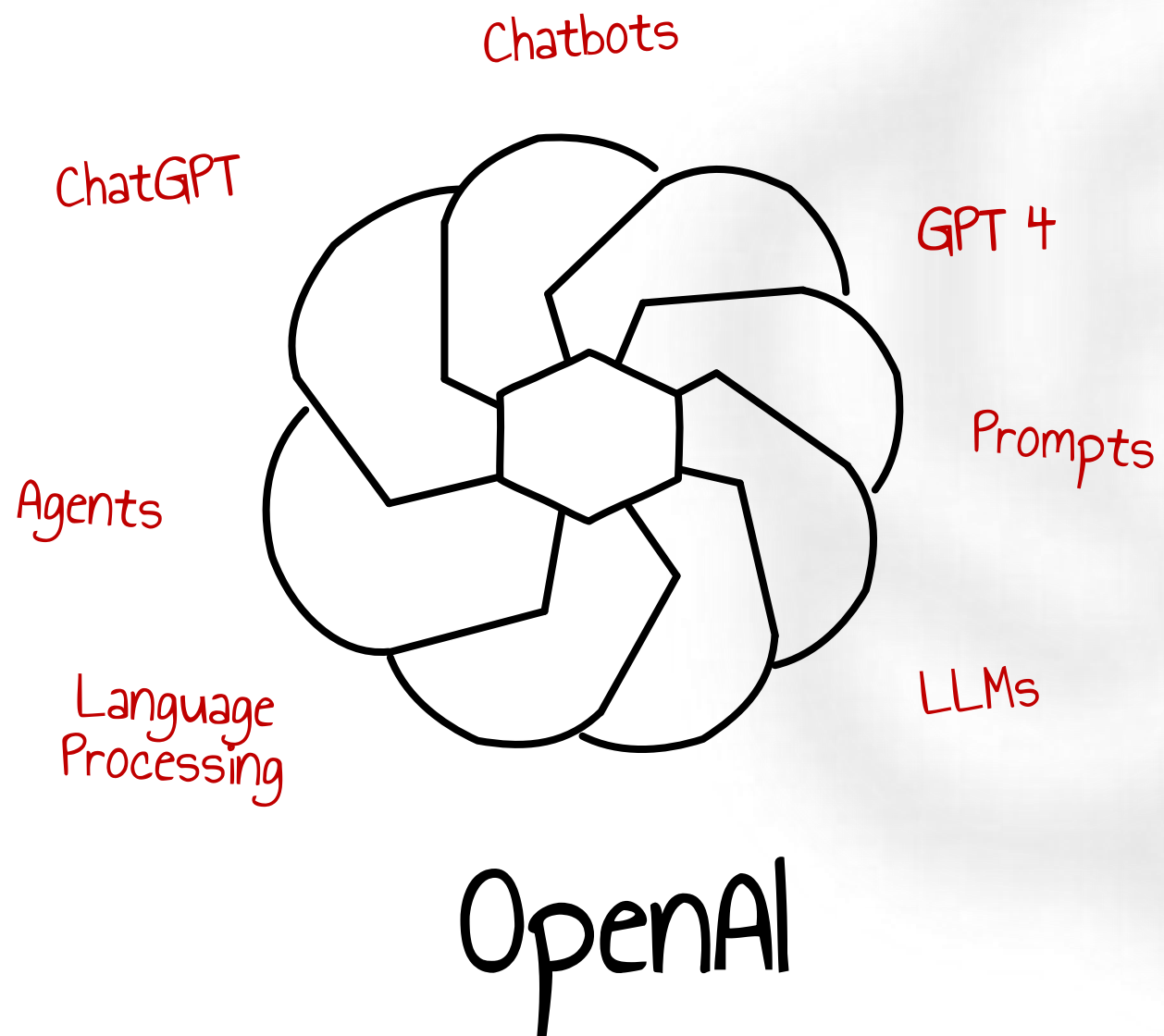
An example of **Generative Fill** in Adobe Photoshop



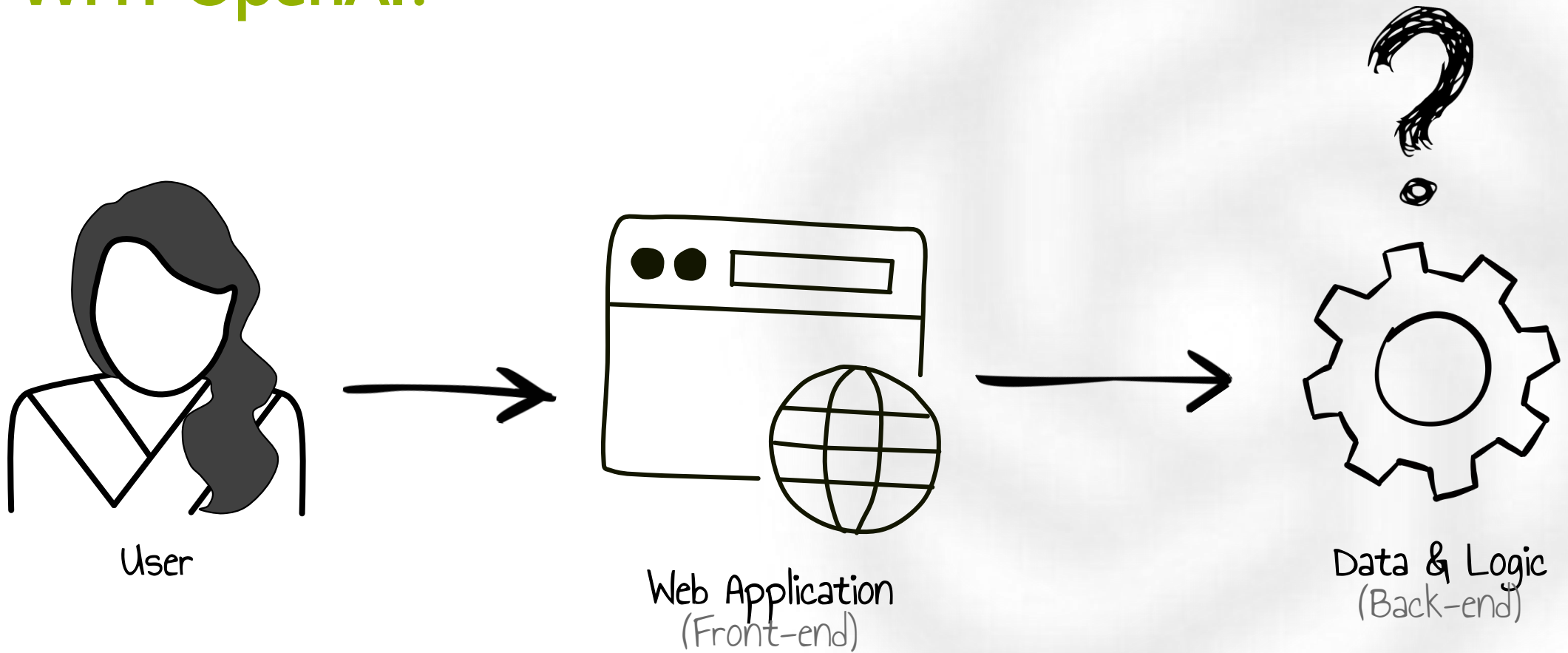
An example of **Generative Fill** in Adobe Photoshop



An example of **Generative Fill** in Adobe Photoshop

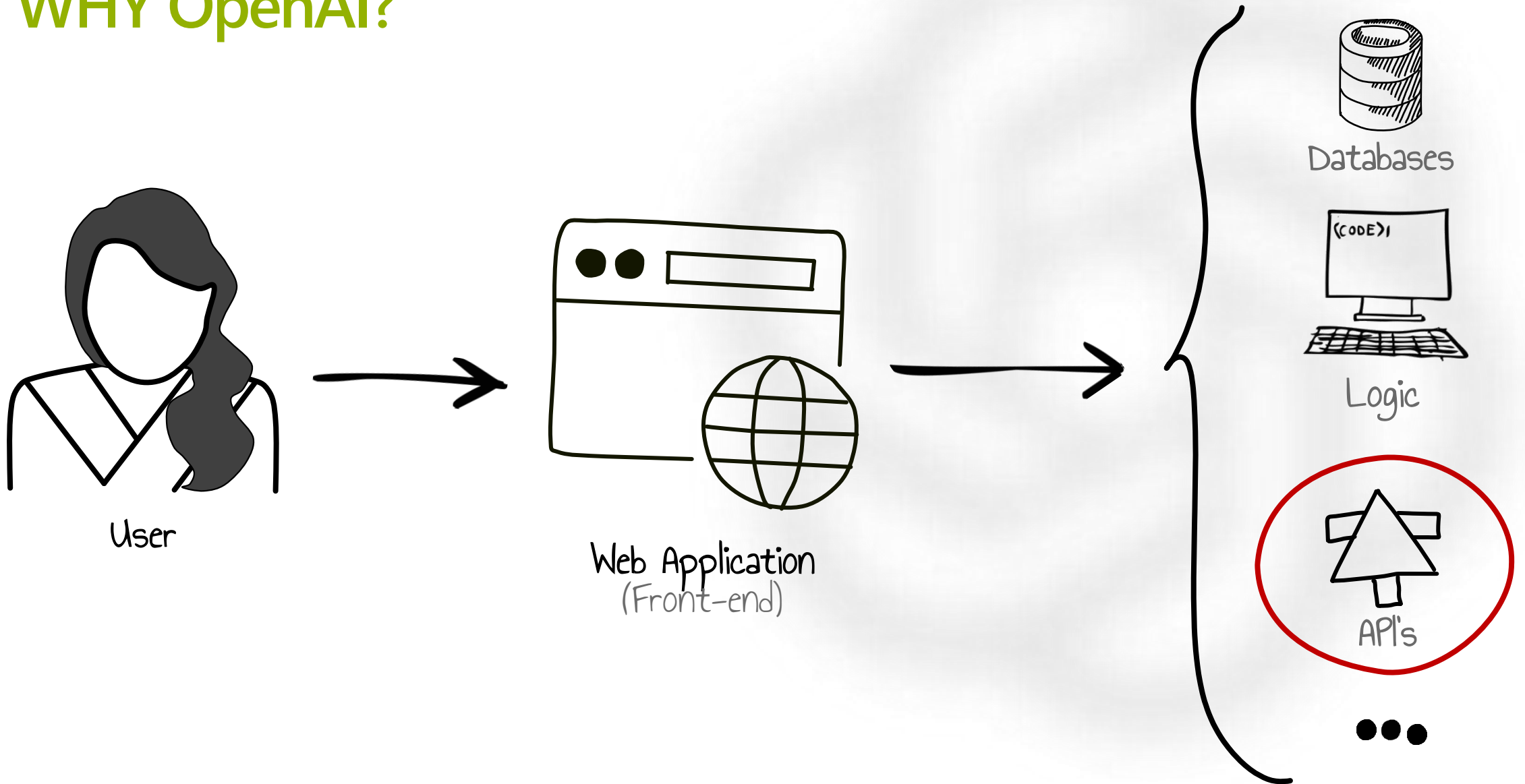


WHY OpenAI?



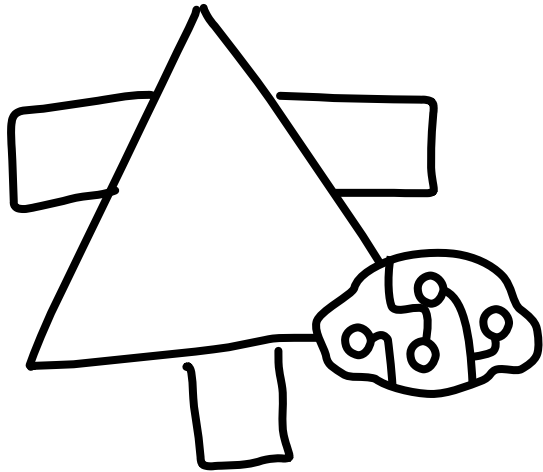
tags: azure, ai, machine learning, nlp, data, organization

WHY OpenAI?

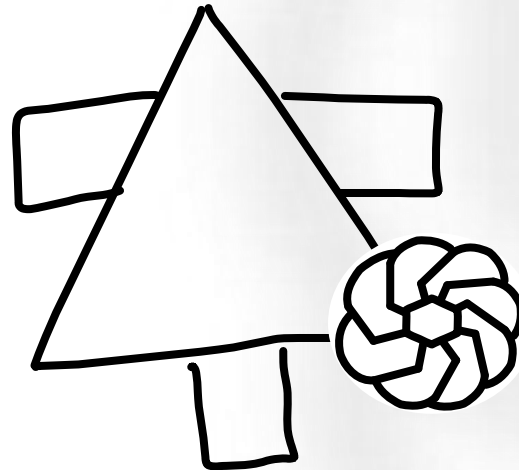


WHY OpenAI?

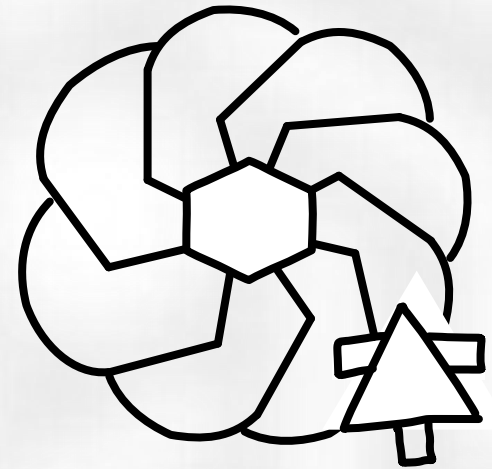
Azure



Azure Cognitive
Services

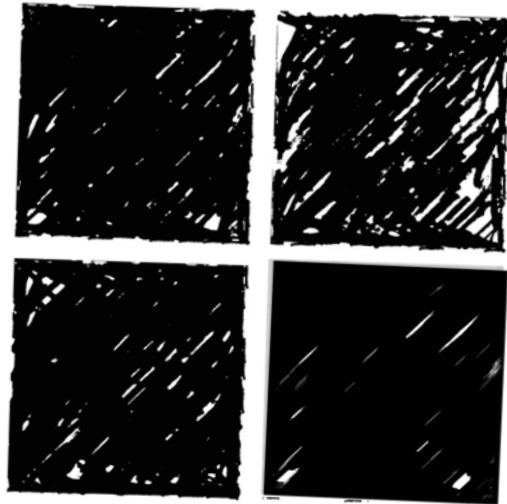


Azure OpenAI



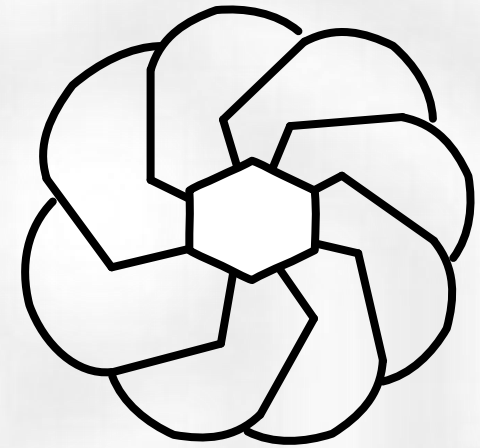
OpenAI

WHY OpenAI?



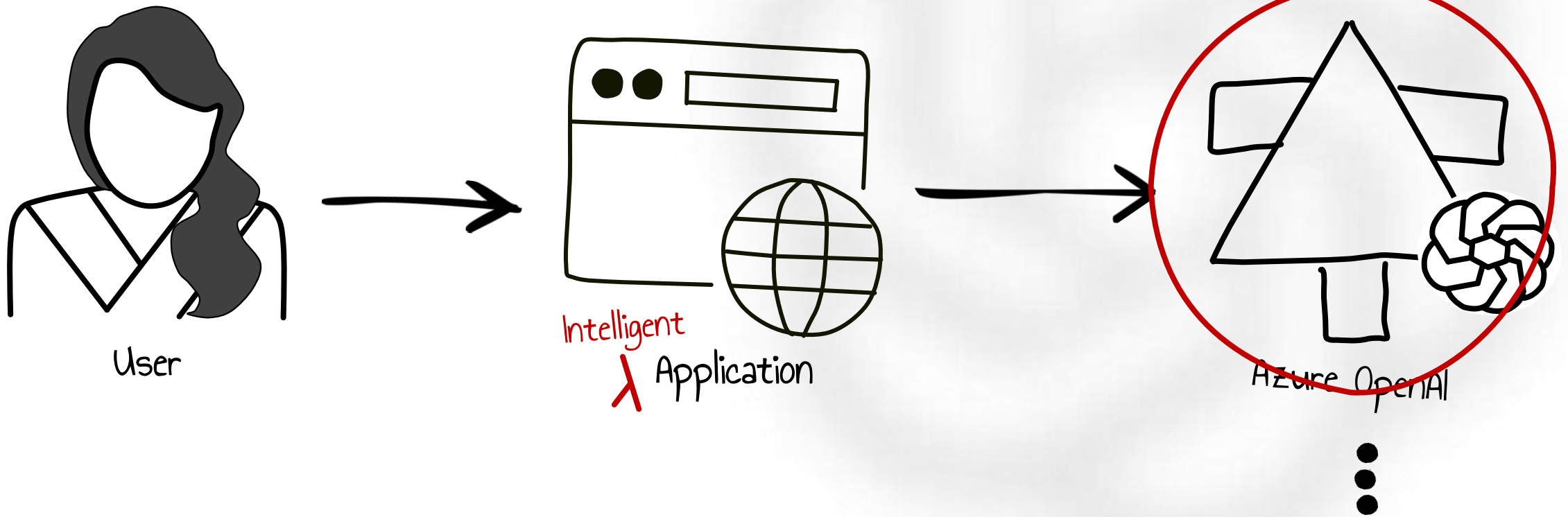
Microsoft

Invested \$10 bn

A hand-drawn black arrow pointing from the Microsoft logo towards the OpenAI logo.

OpenAI

WHY OpenAI?

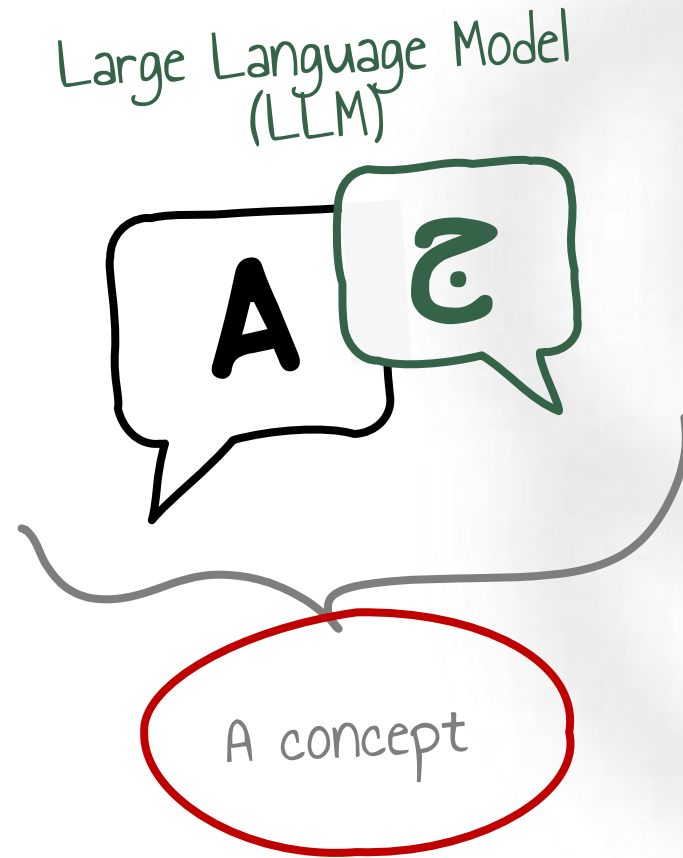


LLM Concept

Large Language Model
(LLM)



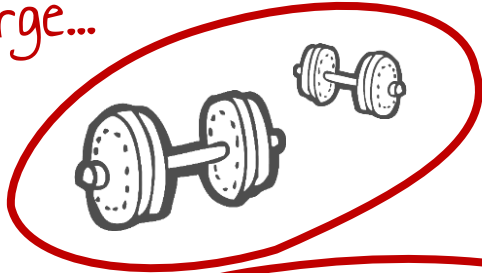
LLM Concept



tags: language, nlp, model

LLM Concept

A very large...



Large Language Model (LLM)



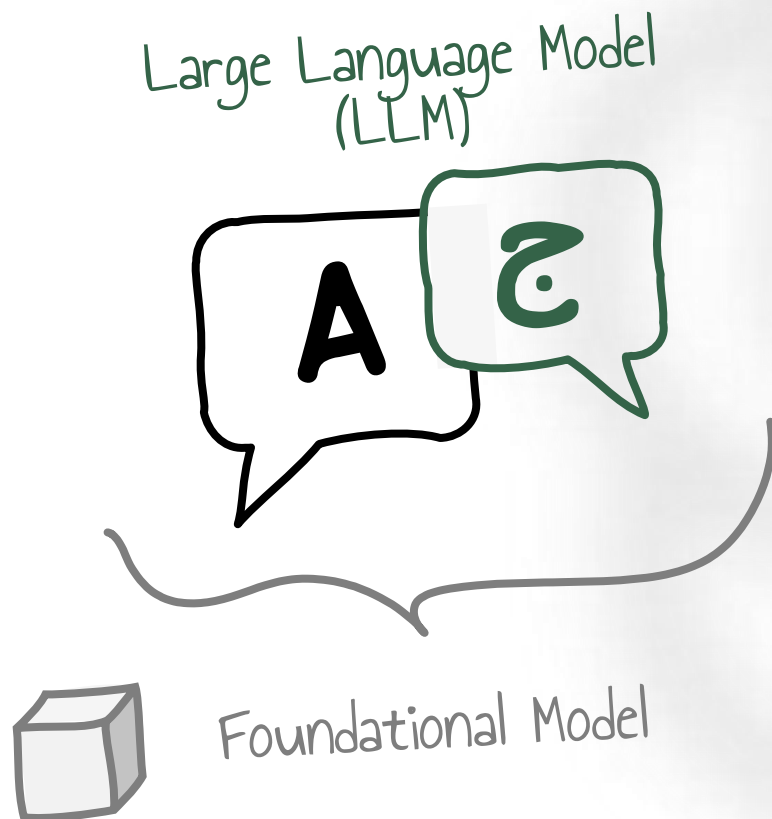
Body of text



Train

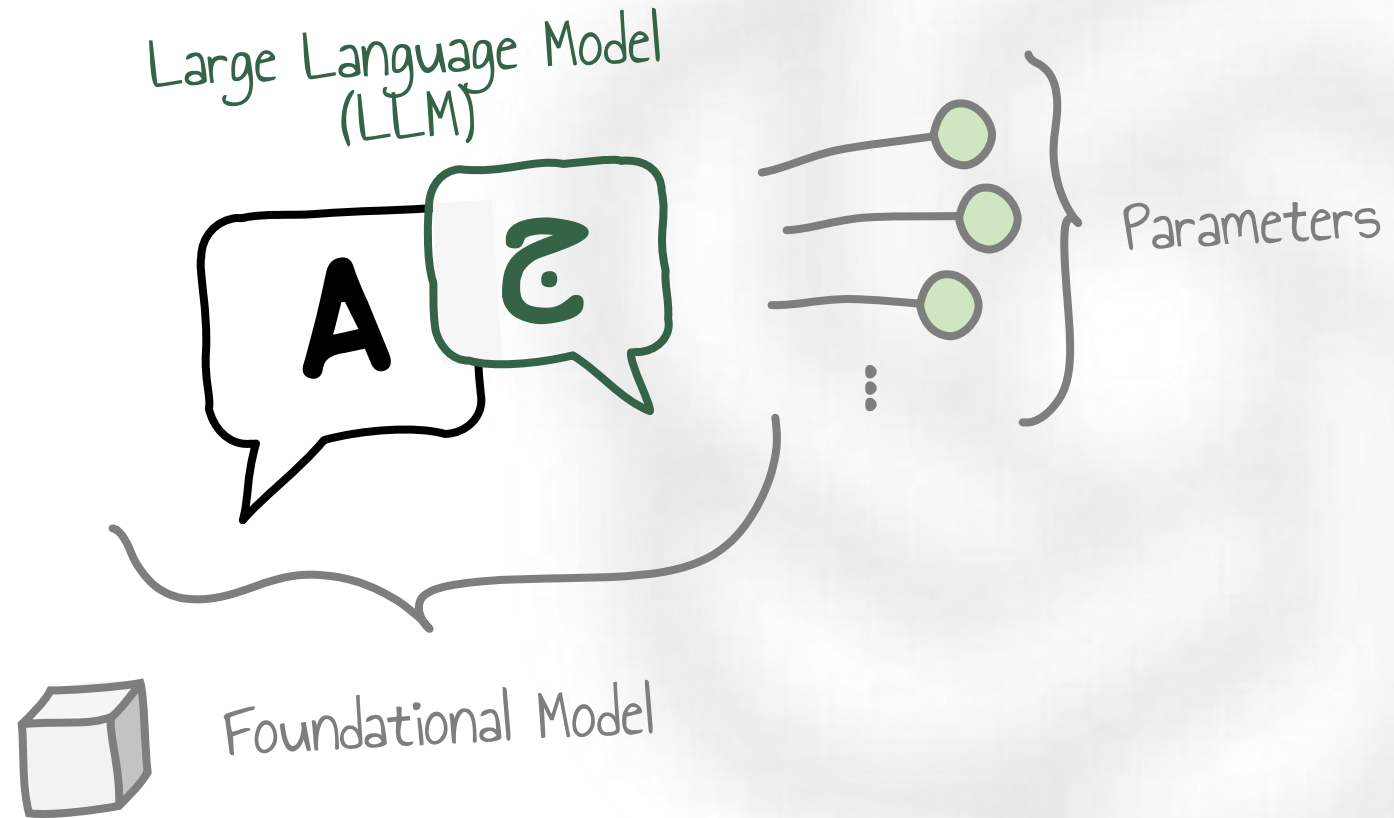


LLM Concept



tags: language, nlp, foundational, parameters

LLM Concept



LLM Concept

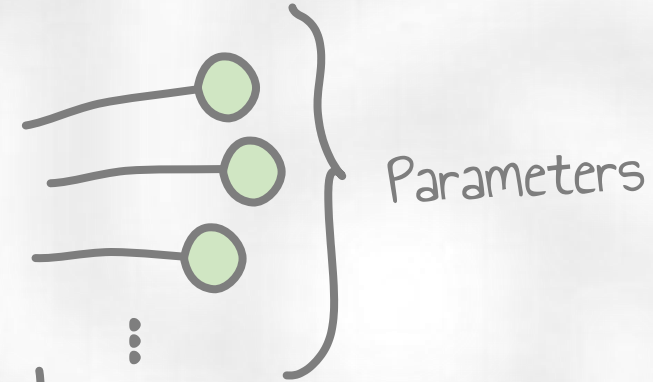
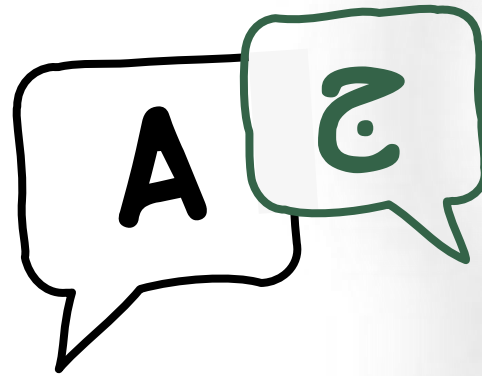
Examples

- GPT 3.5
- Dolly
- Bart
- etc.

Source

<https://crfm.stanford.edu/ecosystem-graphs/index.html>

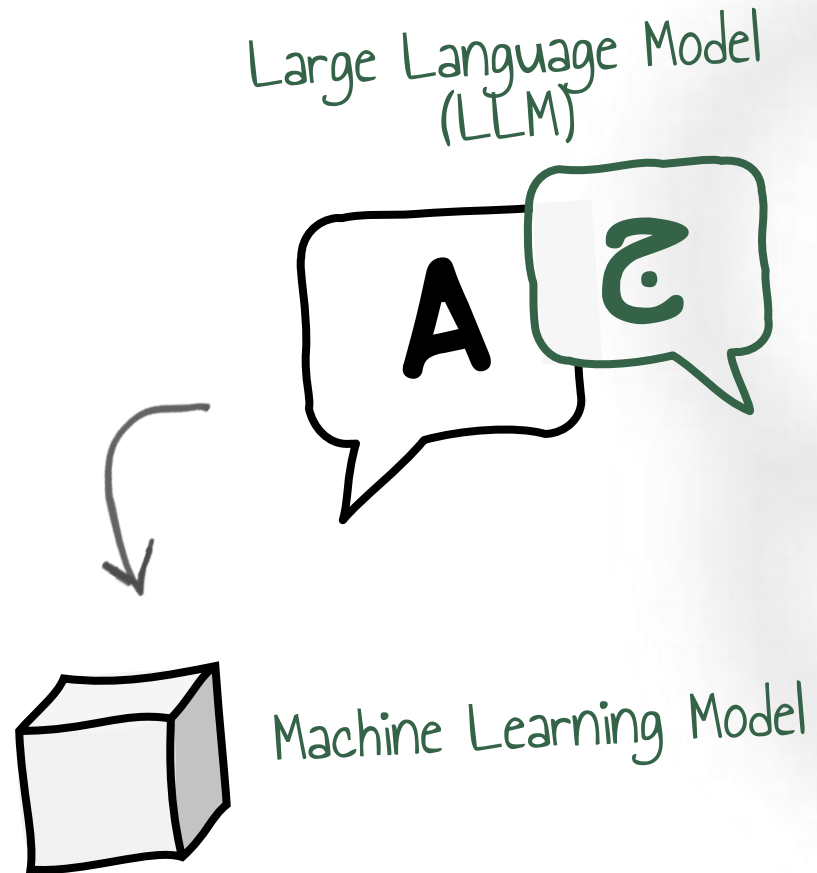
Large Language Model
(LLM)



Foundational Model

tags: language, nlp, foundational, parameters

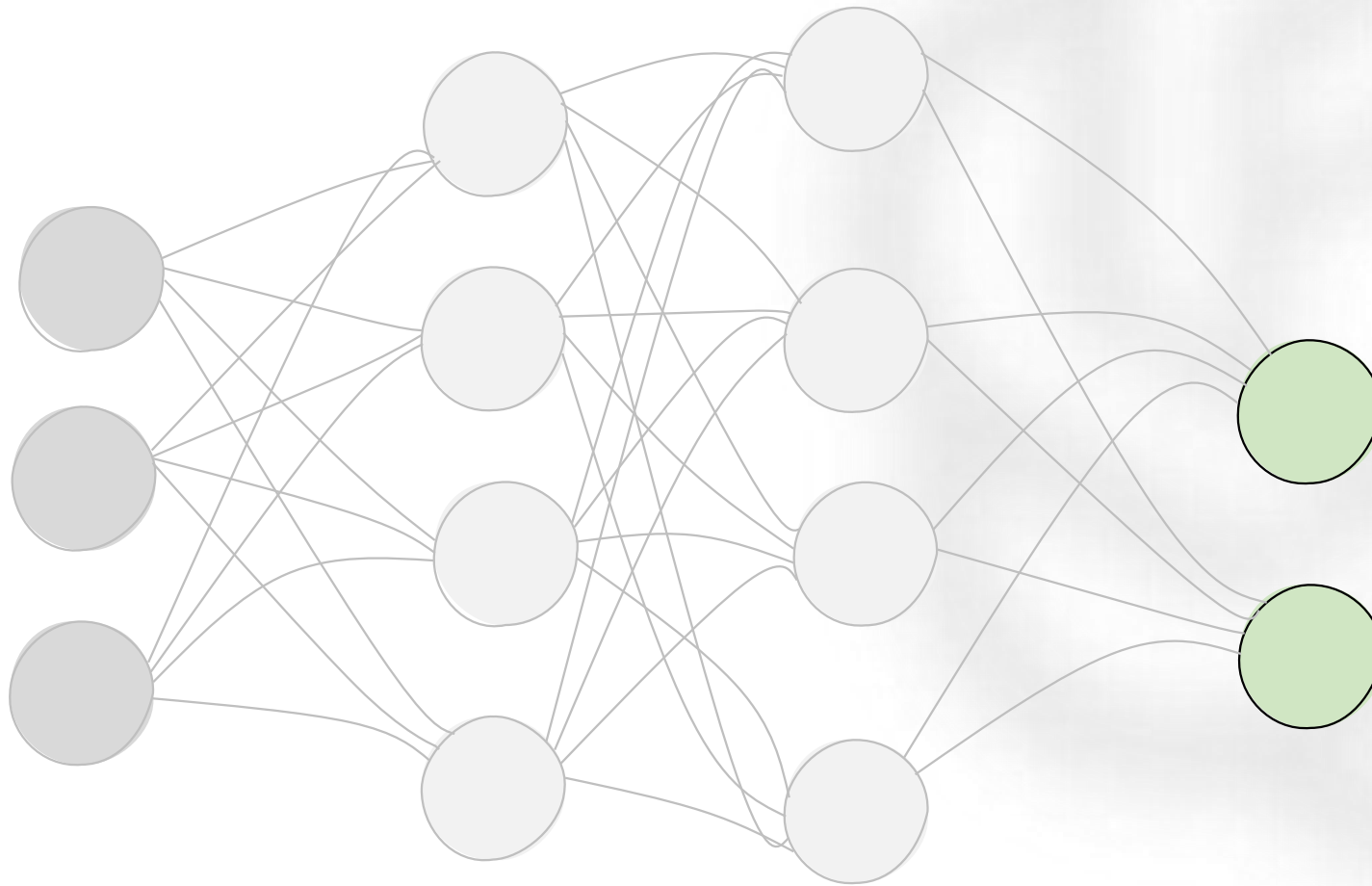
LLM Concept



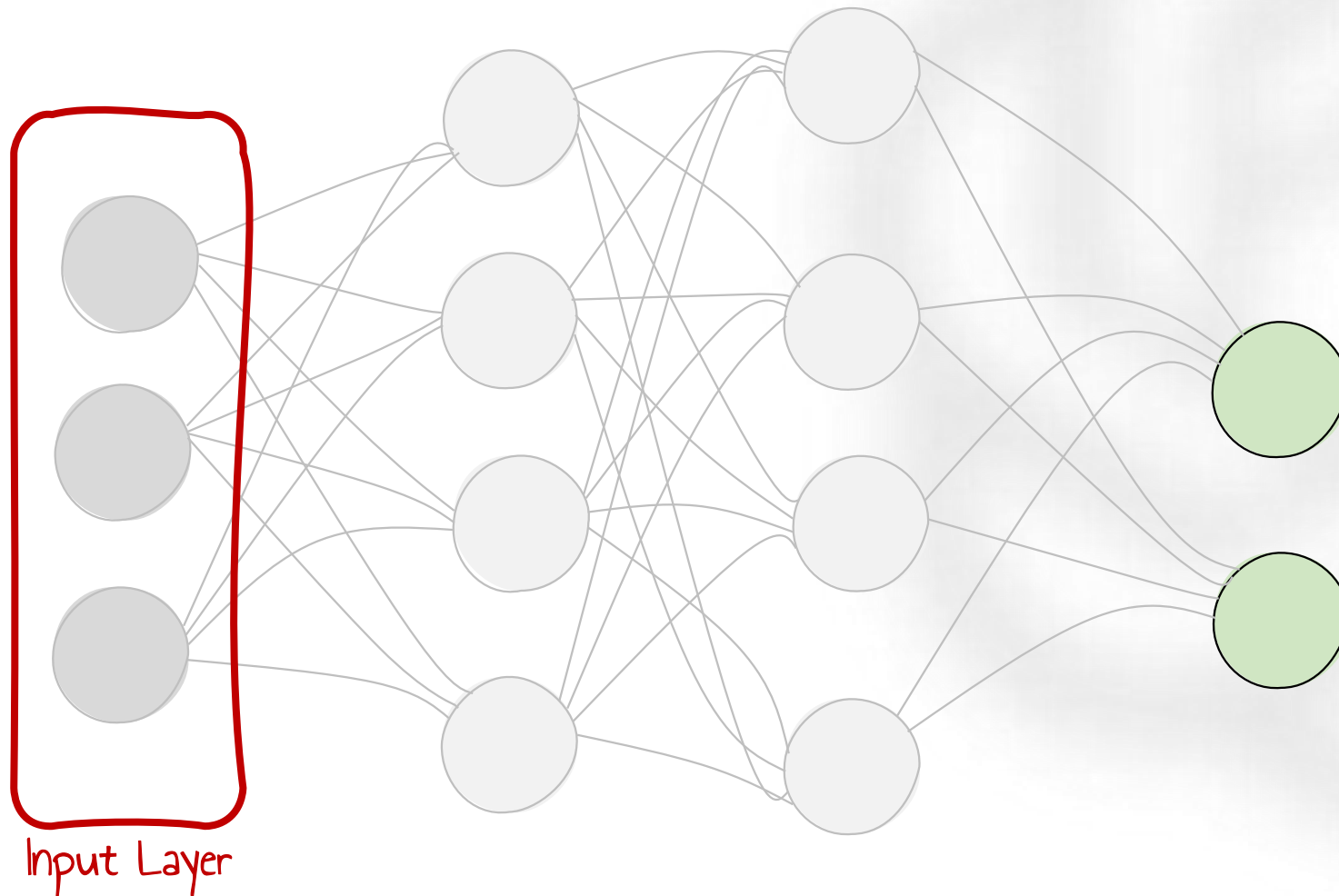
Intended Outcomes

1. Understand OpenAI Concepts
2. Develop with Azure OpenAI
3. Differentiate LangChain & Semantic Kernel

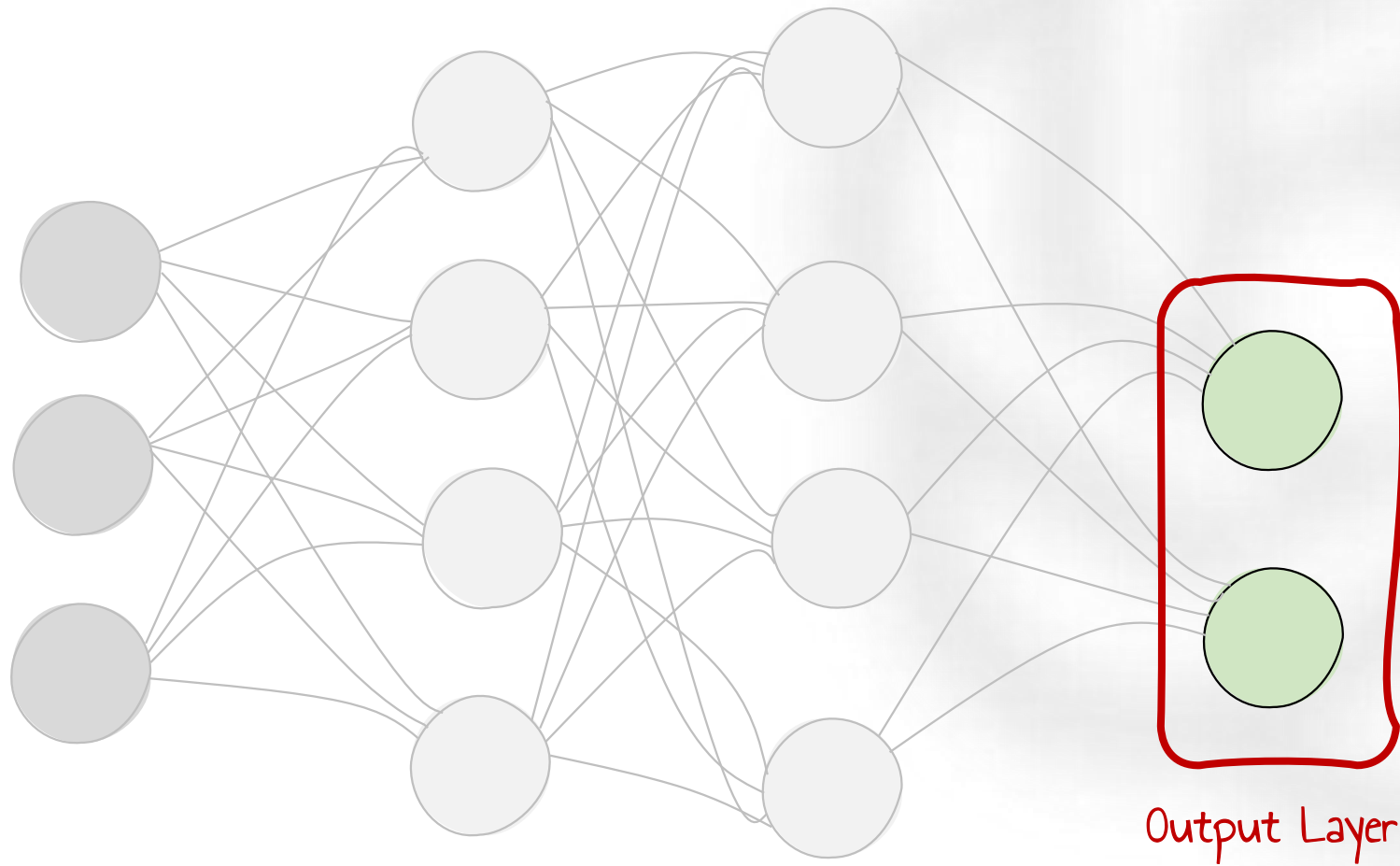
In old times (pre-2023)



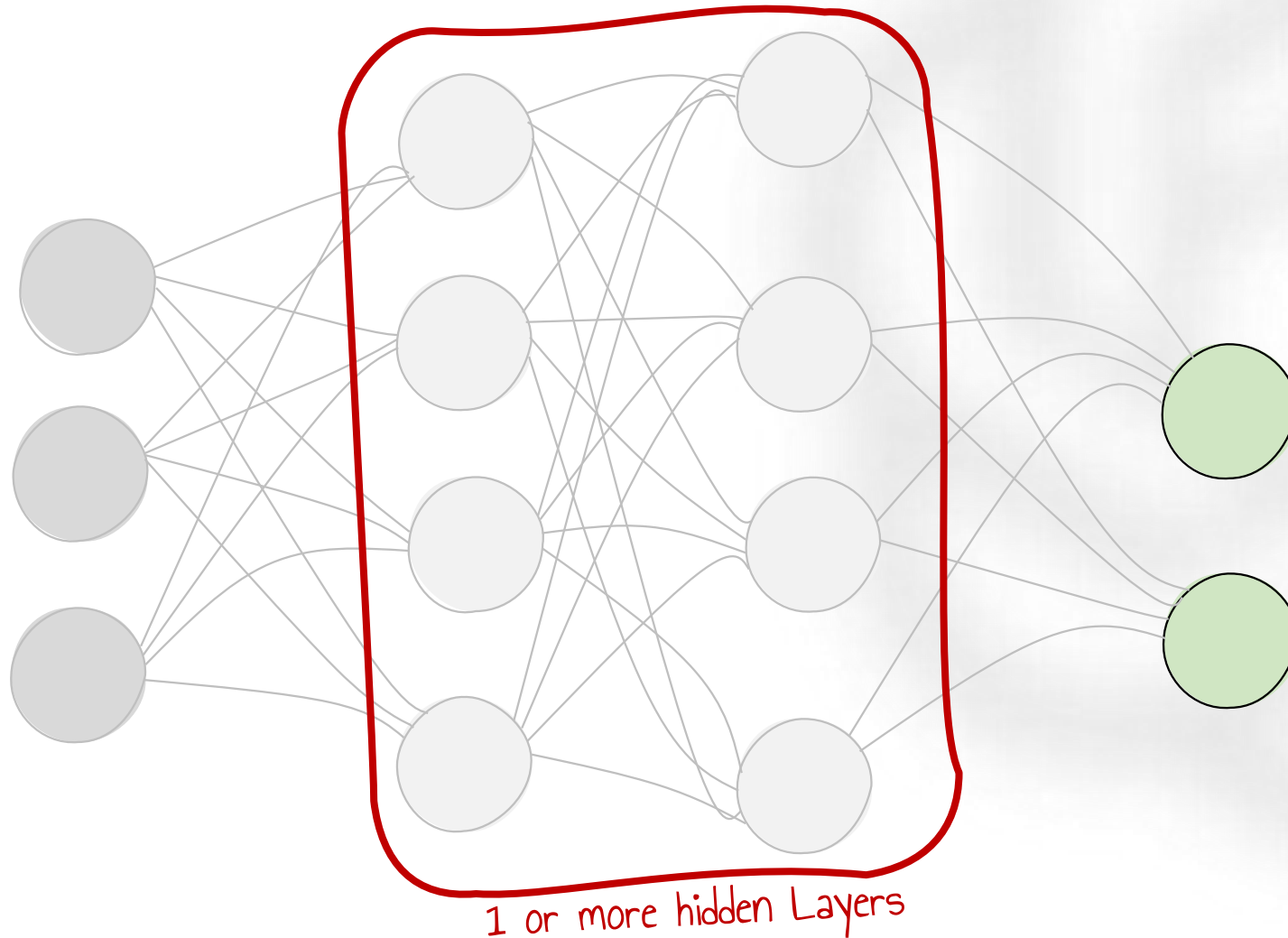
In old times (pre-2023)



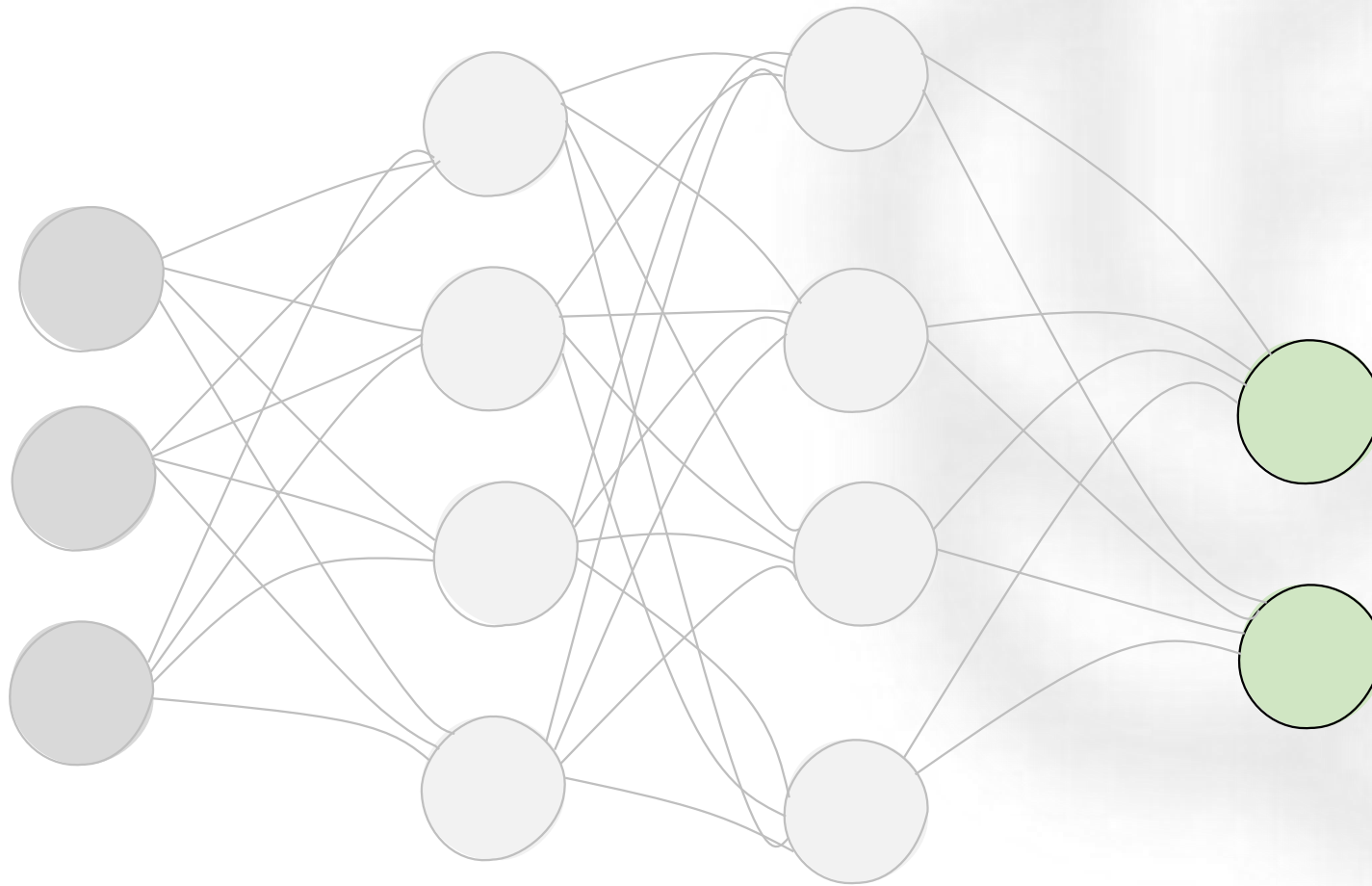
In old times (pre-2023)



In old times (pre-2023)



In old times (pre-2023)

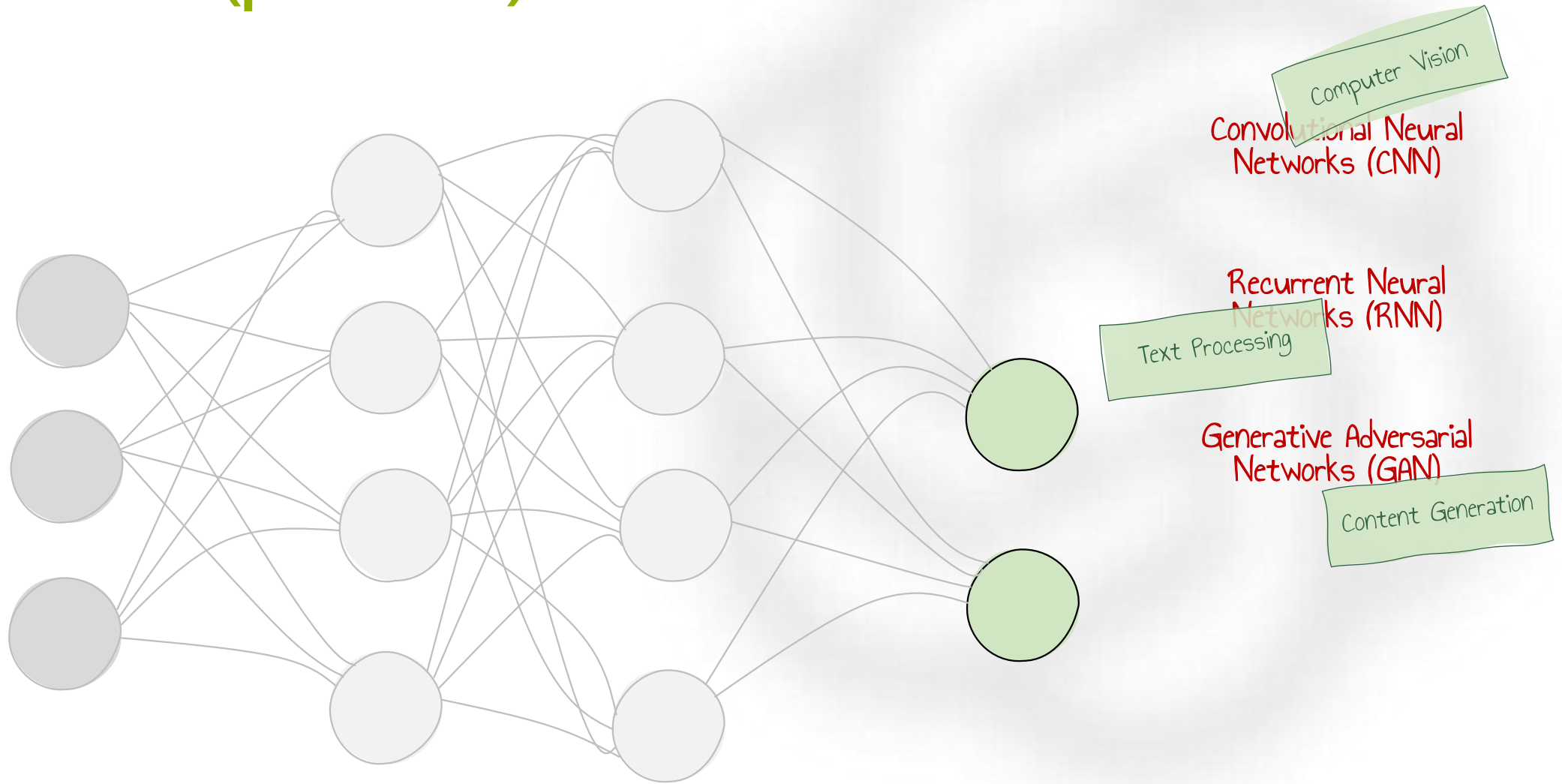


Convolutional Neural
Networks (CNN)

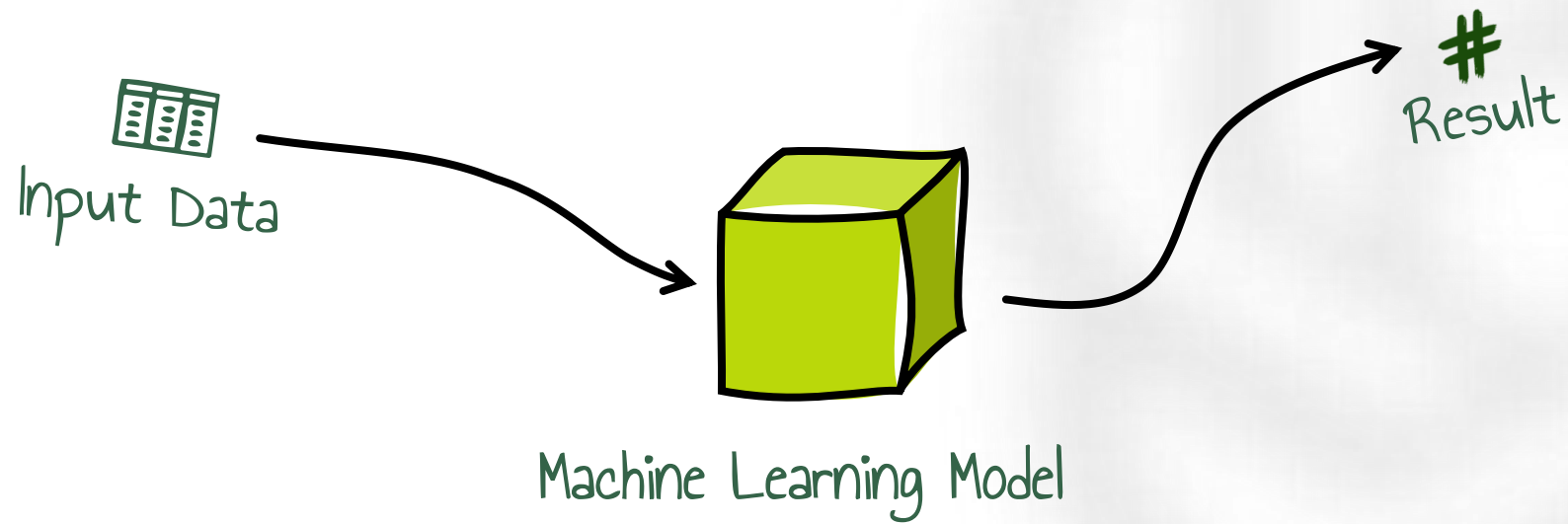
Recurrent Neural
Networks (RNN)

Generative Adversarial
Networks (GAN)

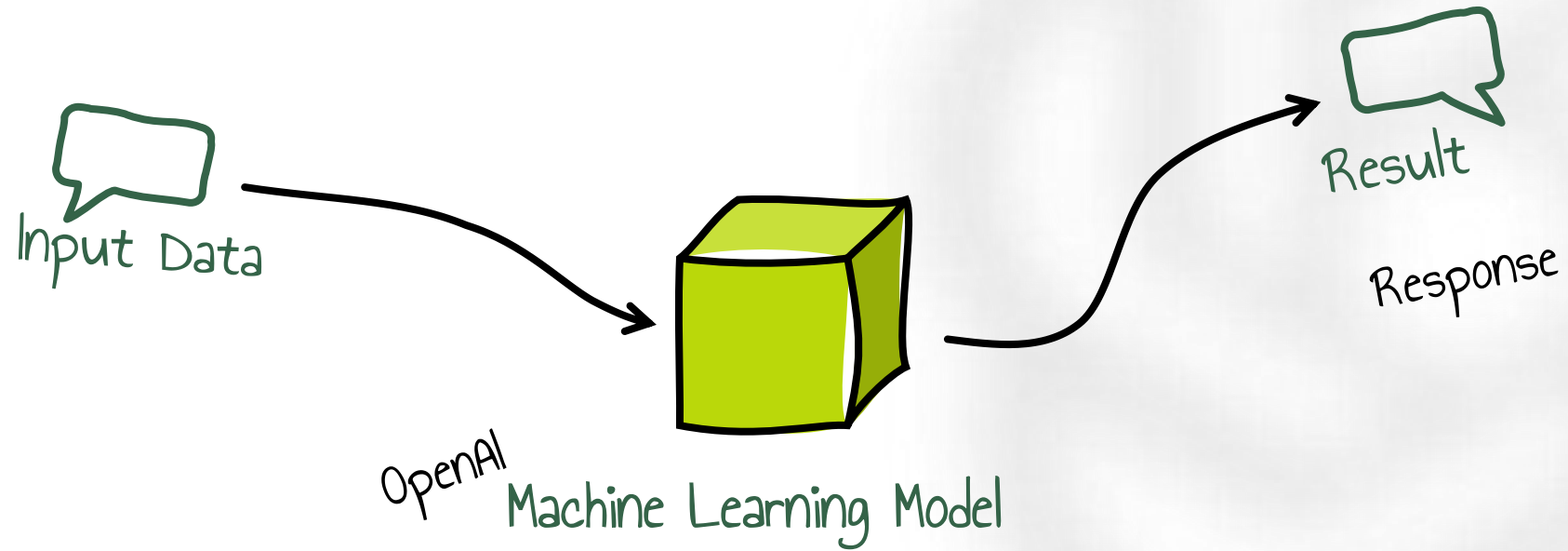
In old times (pre-2023)



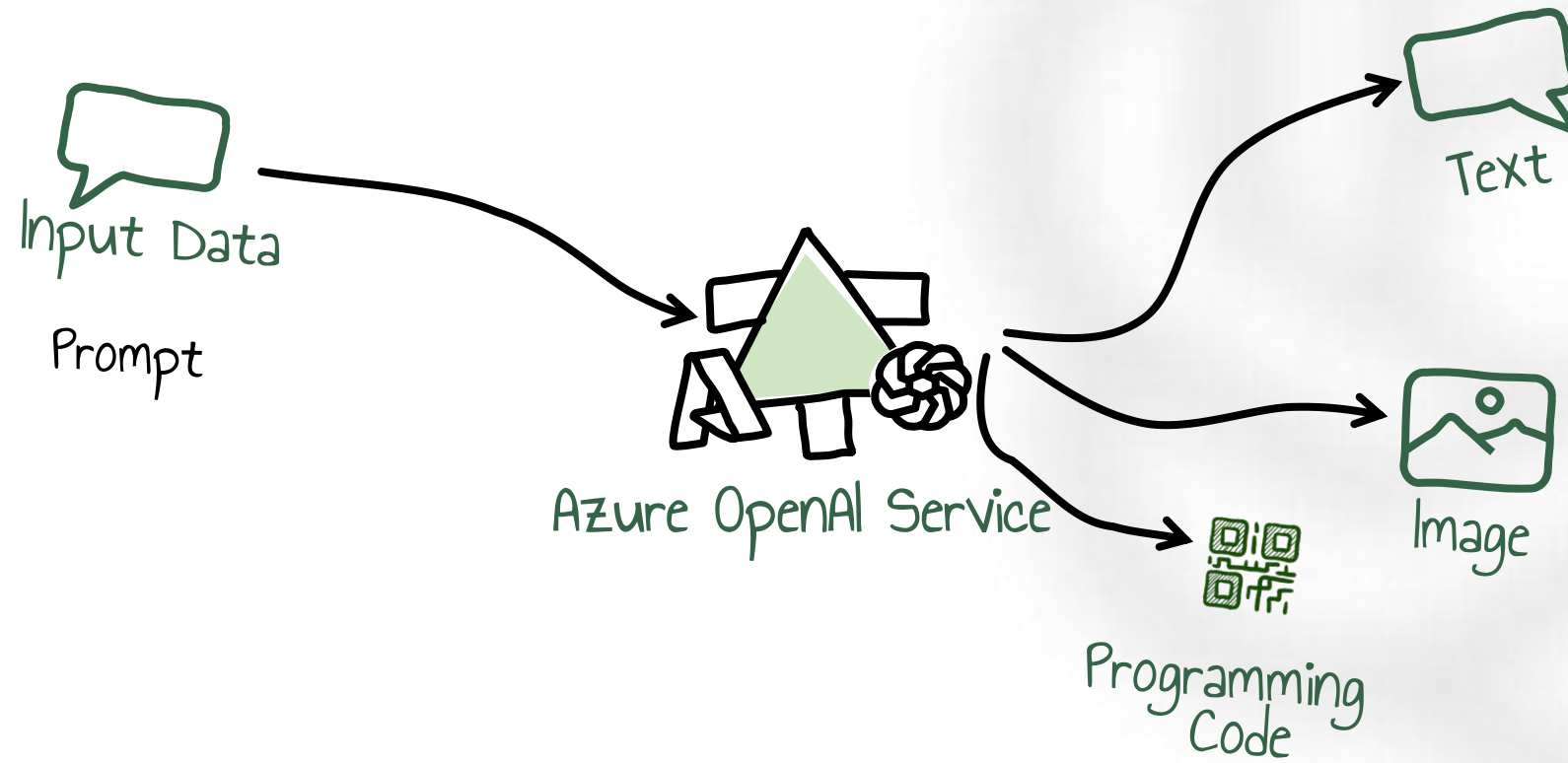
In the new Era...



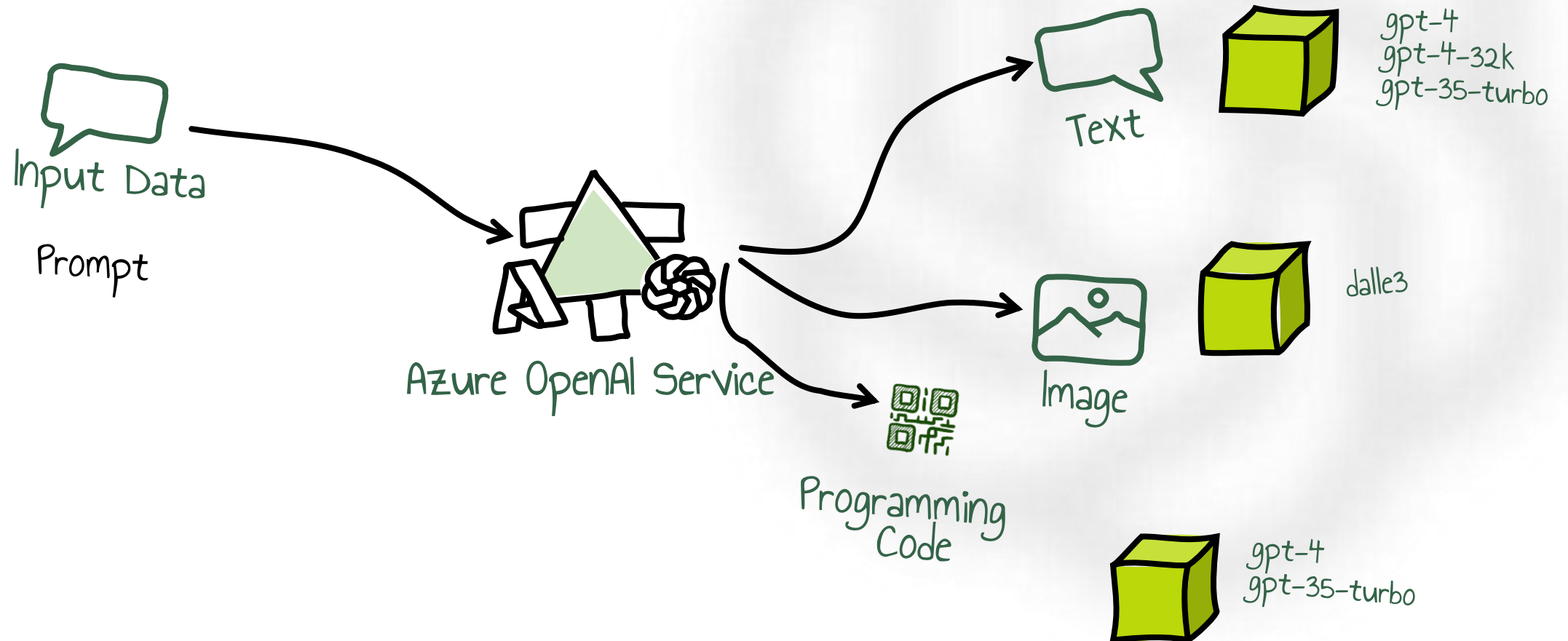
Background



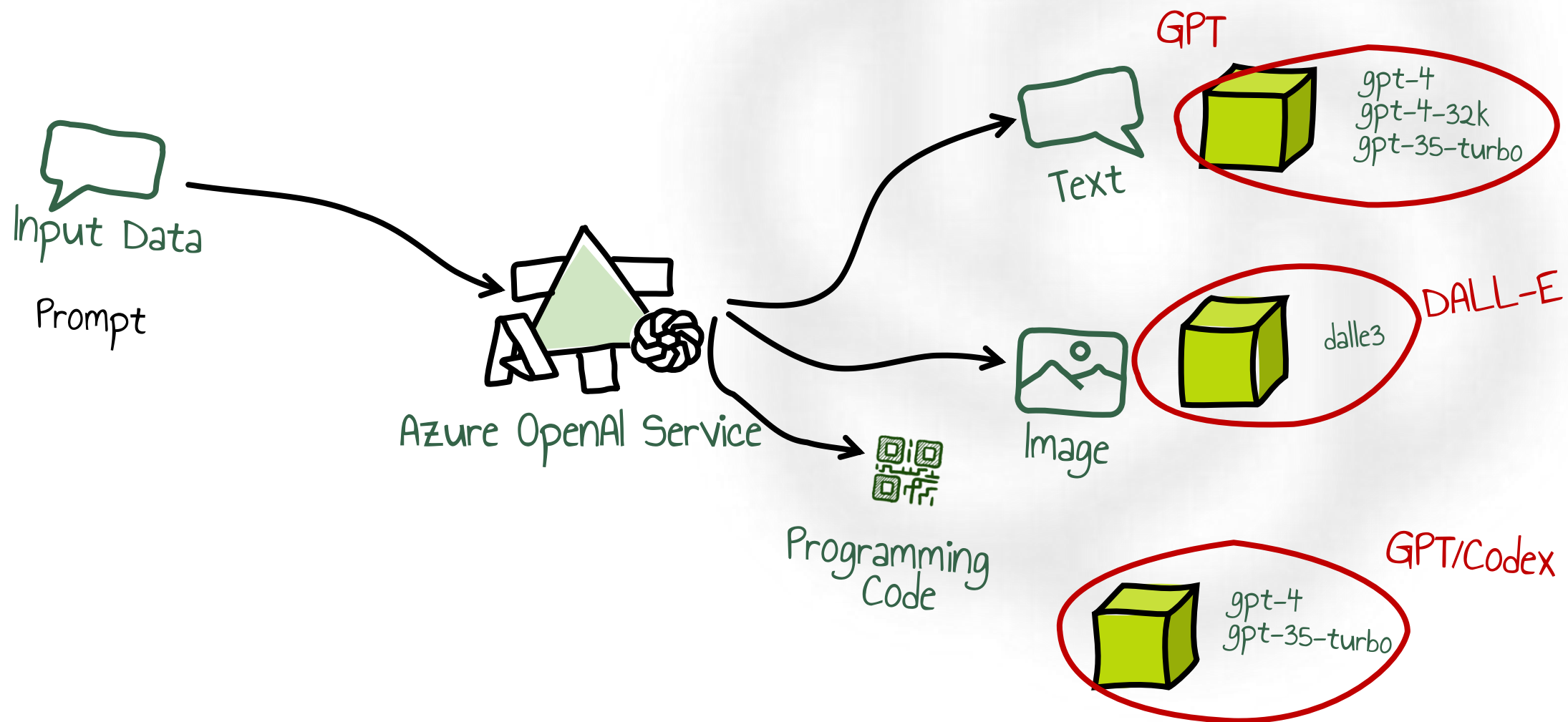
Azure OpenAI



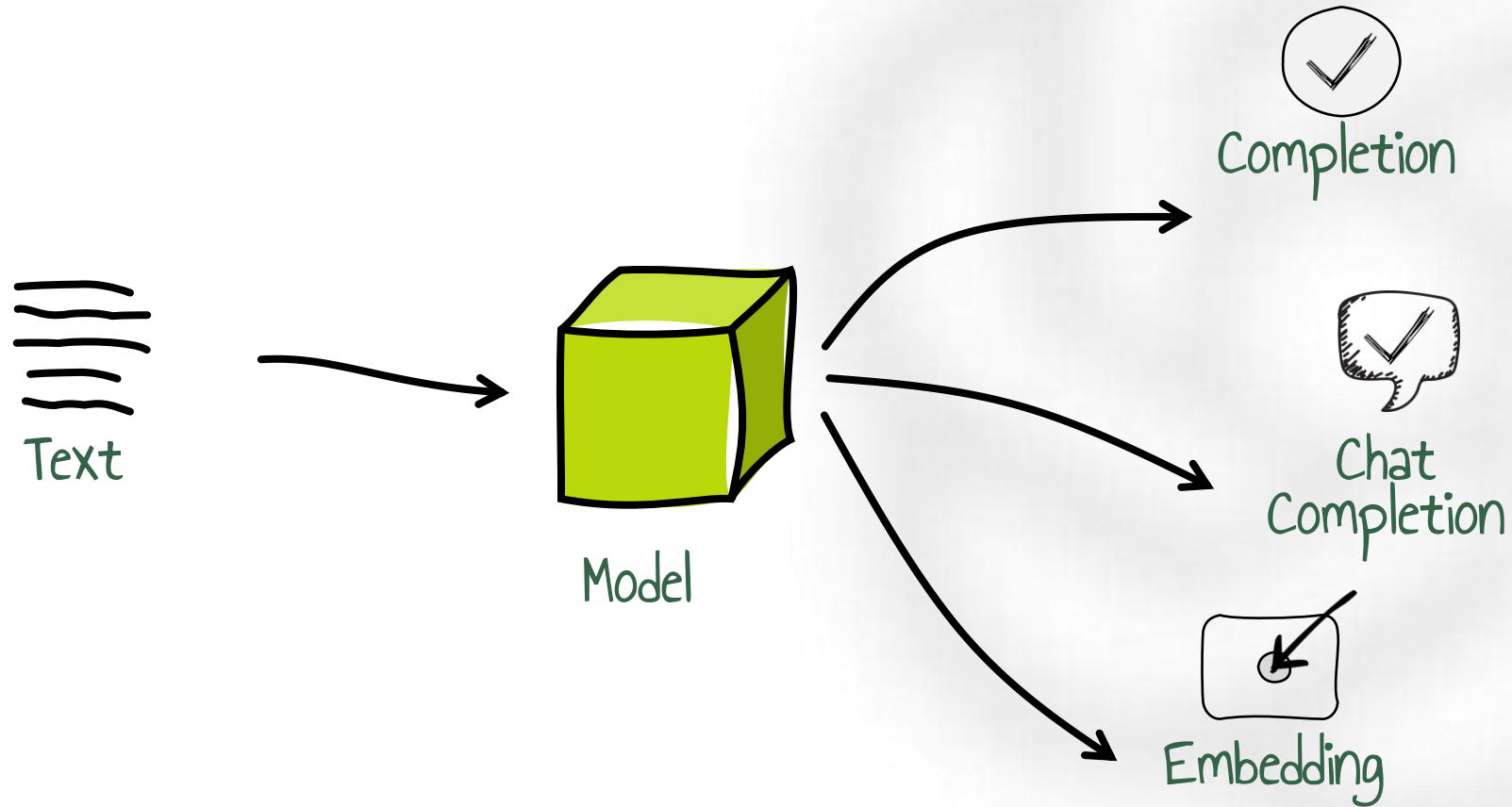
Azure OpenAI Models



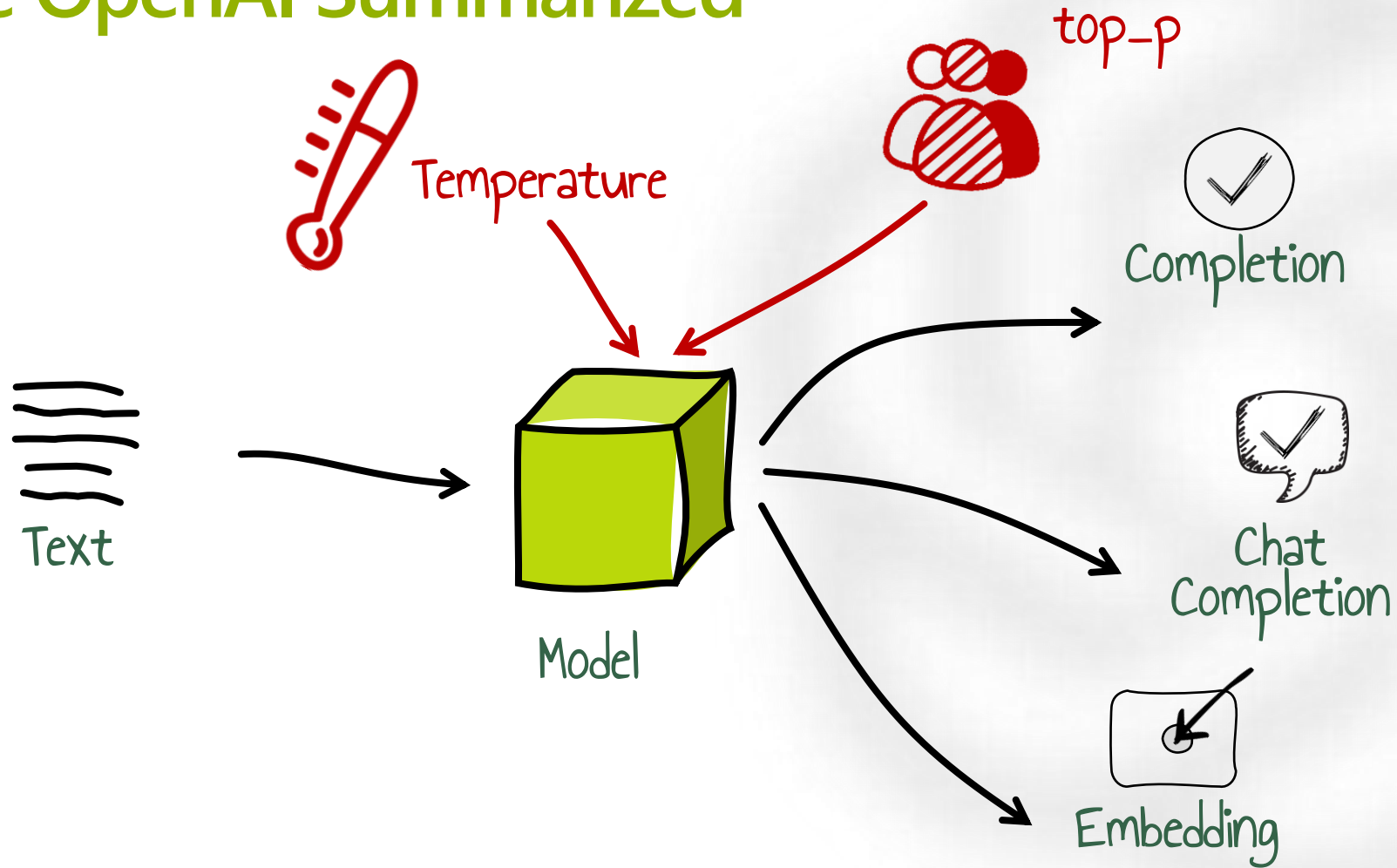
Azure OpenAI Models



Azure OpenAI Summarized



Azure OpenAI Summarized



NLP Tasks

1. Summarization
2. Text Classification
3. Sentiment Analysis
4. Language Translation
5. Text Generation
6. Question Answering
7. Image Captioning
8. Similarity/Vector Search
9. Image Generation (from text)



DEMO

Foundry Toolkit

<https://foundrytoolkit.azurewebsites.net/playgroundv2>



Azure OpenAI Concepts

1. Tokens
2. Vectors
3. Embeddings



Tokenization

Microsoft welcomes Activision to the Xbox family

Tokenization



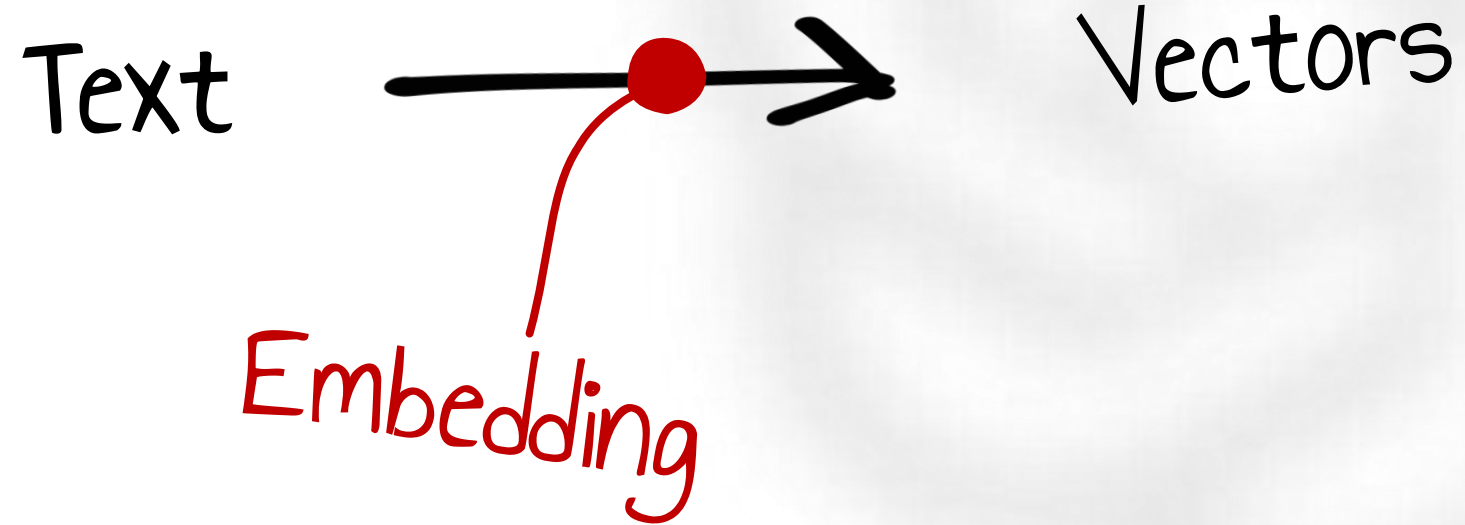
Vectors

Numeric
Representation

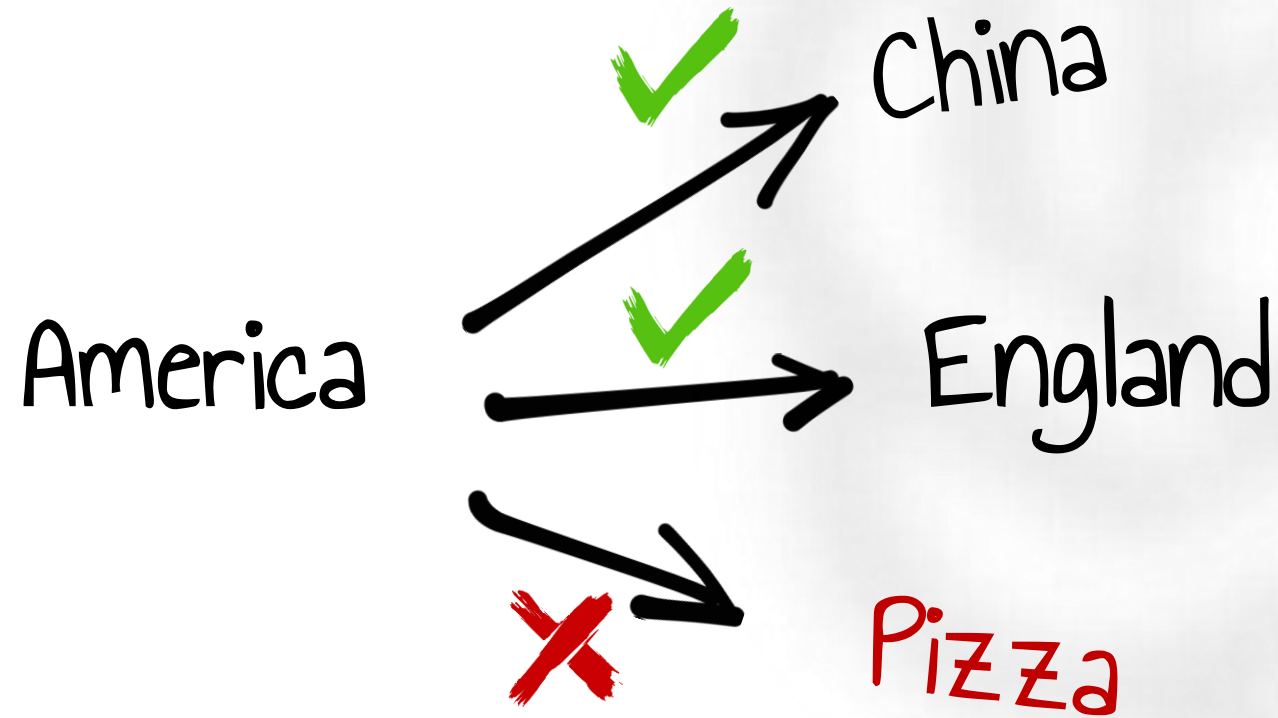
65373735745744890424252886546467599...

Microsoft welcomes Activision to the Xbox family

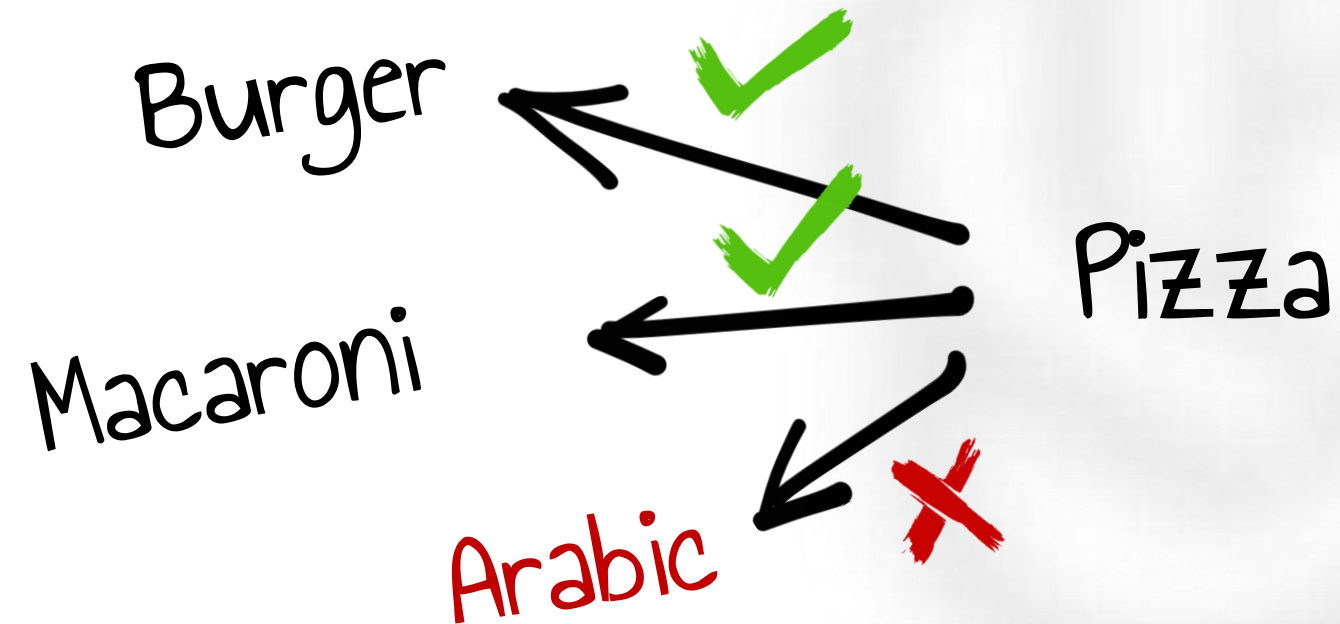
Embedding



Why are vectors used?



Why are vectors used?



Why are vectors used?

Similarity

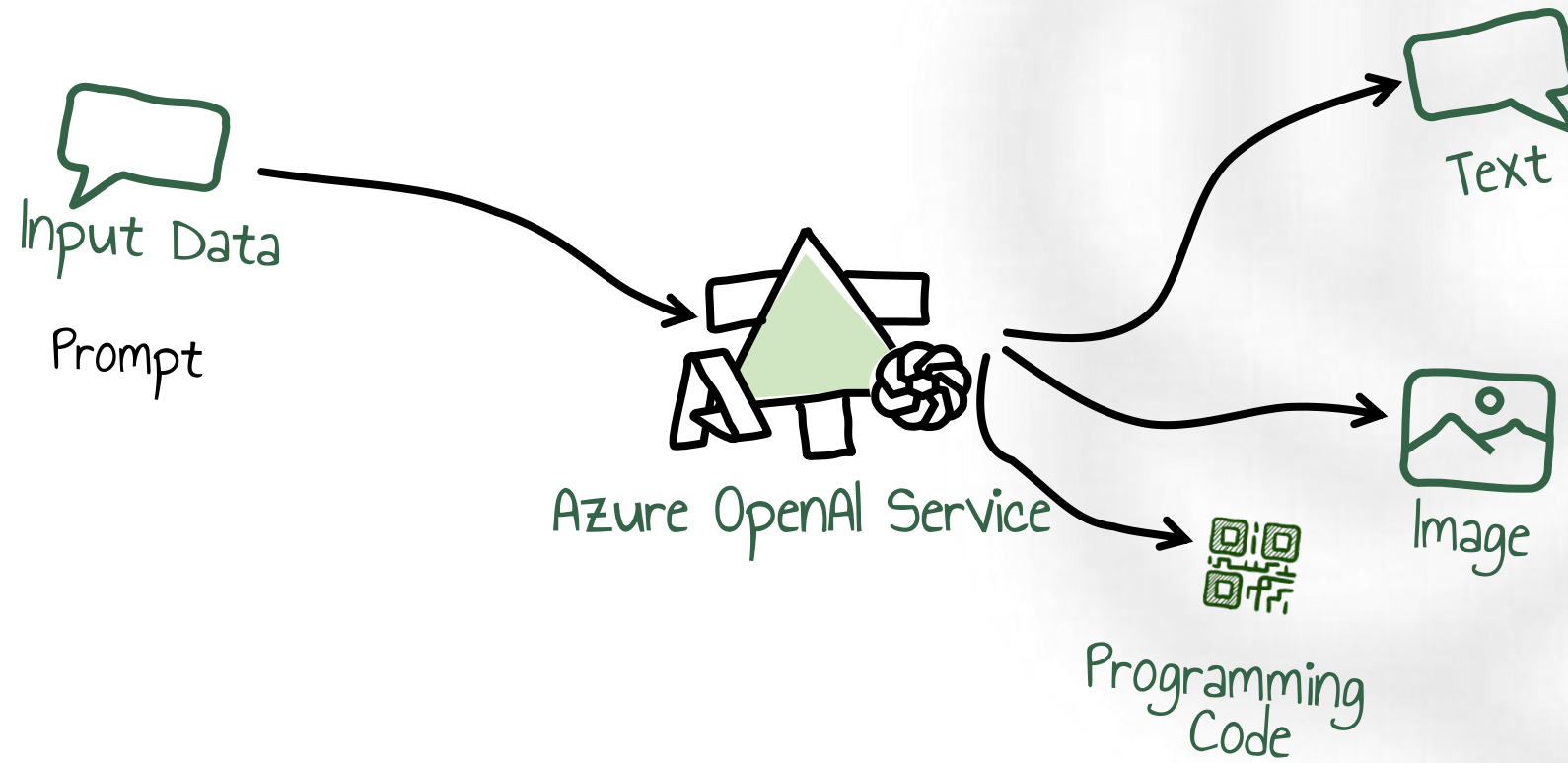
DEMO

Vector Search

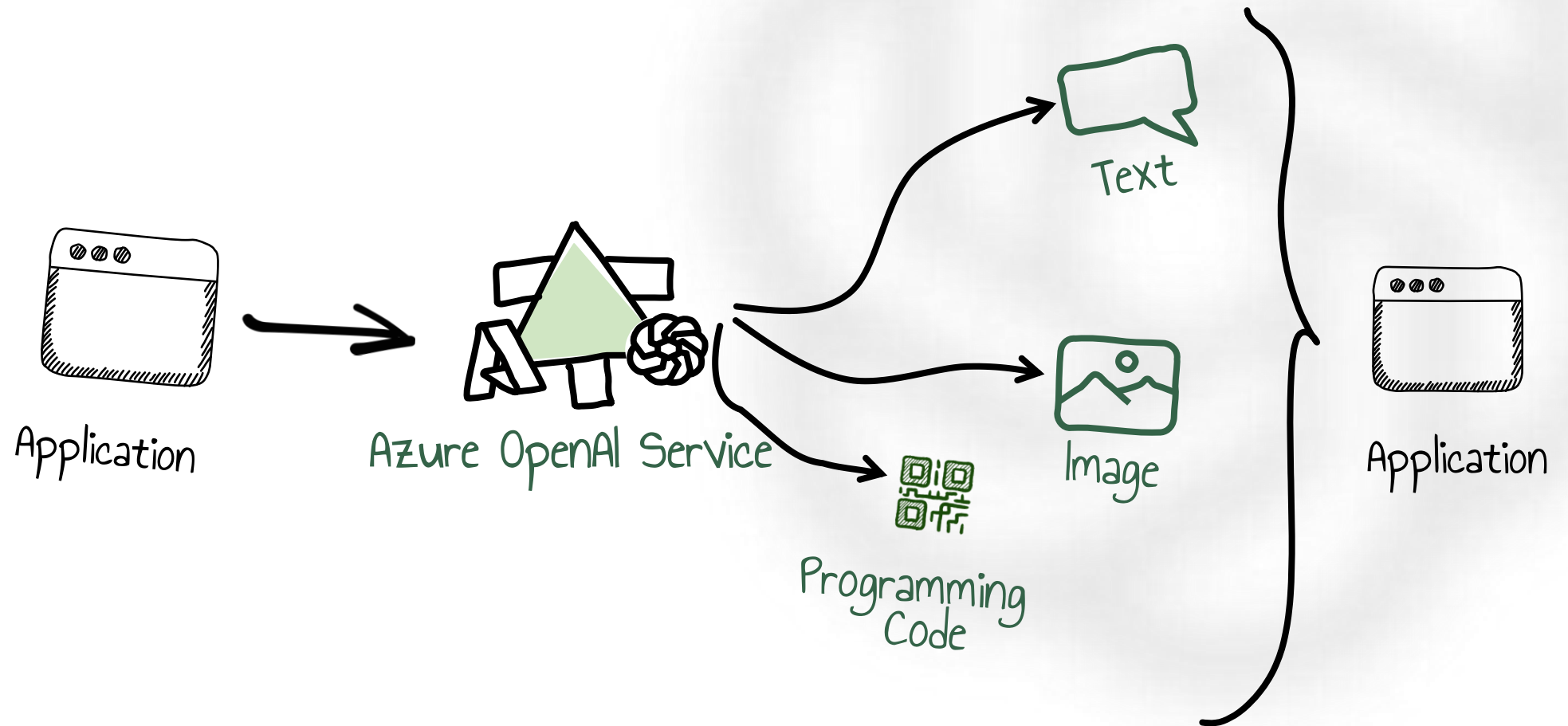
<https://aka.ms/VectorSearchDemo>



Azure OpenAI



Azure OpenAI



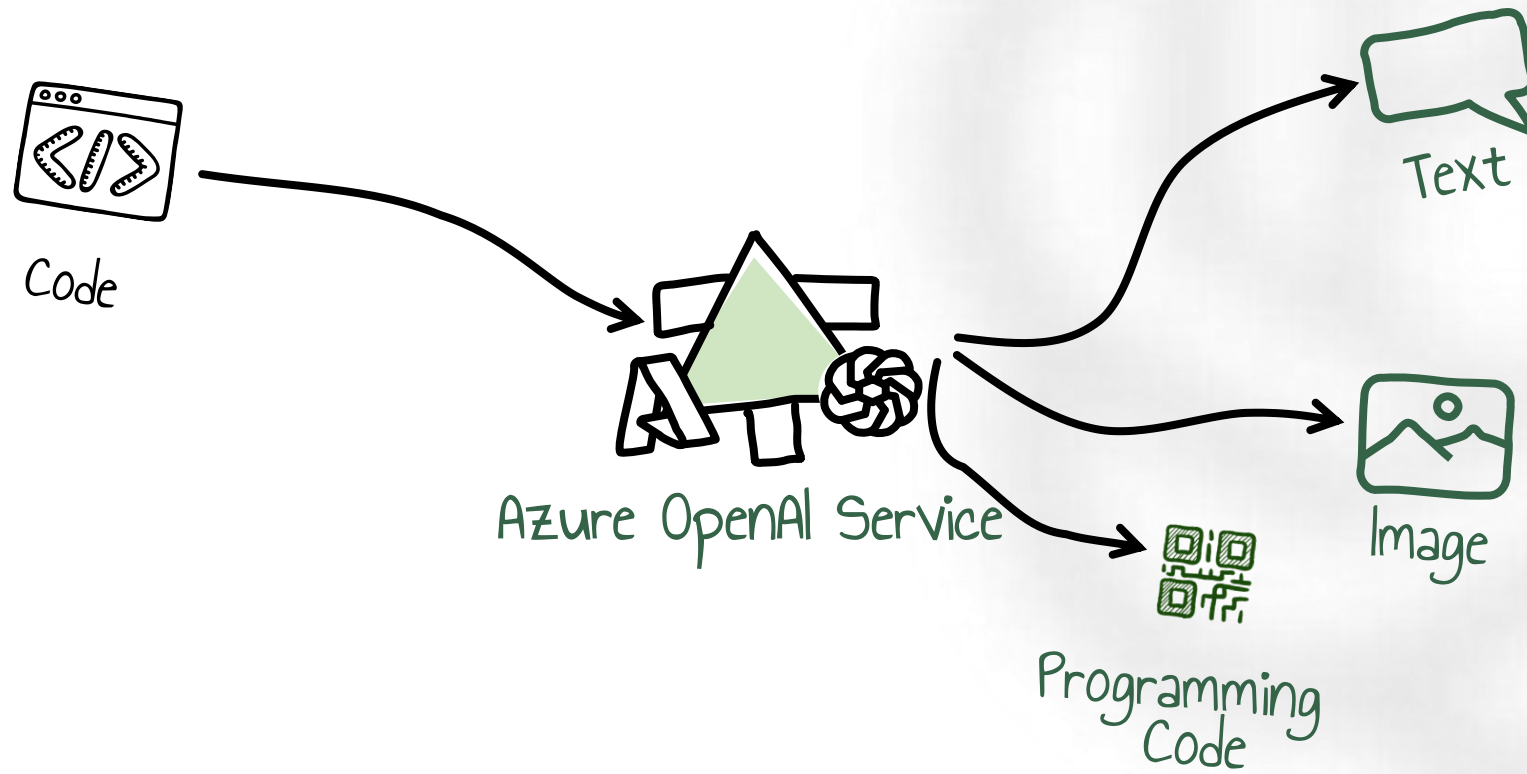
DEMO

TPrompt Chatbot

<https://aka.ms/tprompt/>



Azure OpenAI Code



Development Workflow

1. Provision OpenAI in Azure
2. Deploy a Model
3. Write code

DEMO

Provision & Deploy

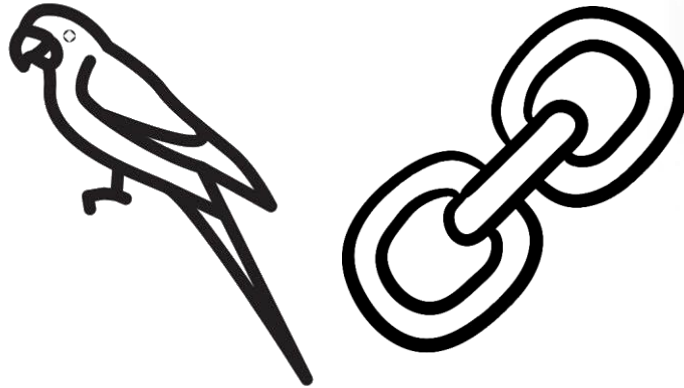
<https://portal.azure.com>



Development Workflow

1. Provision OpenAI in Azure
2. Deploy a Model
3. Write code

Azure OpenAI Code



LangChain



Semantic Kernel

Azure OpenAI Code

LangChain

Open-Source

Python, JavaScript, TypeScript

langchain.com

Semantic Kernel

Owned by Microsoft

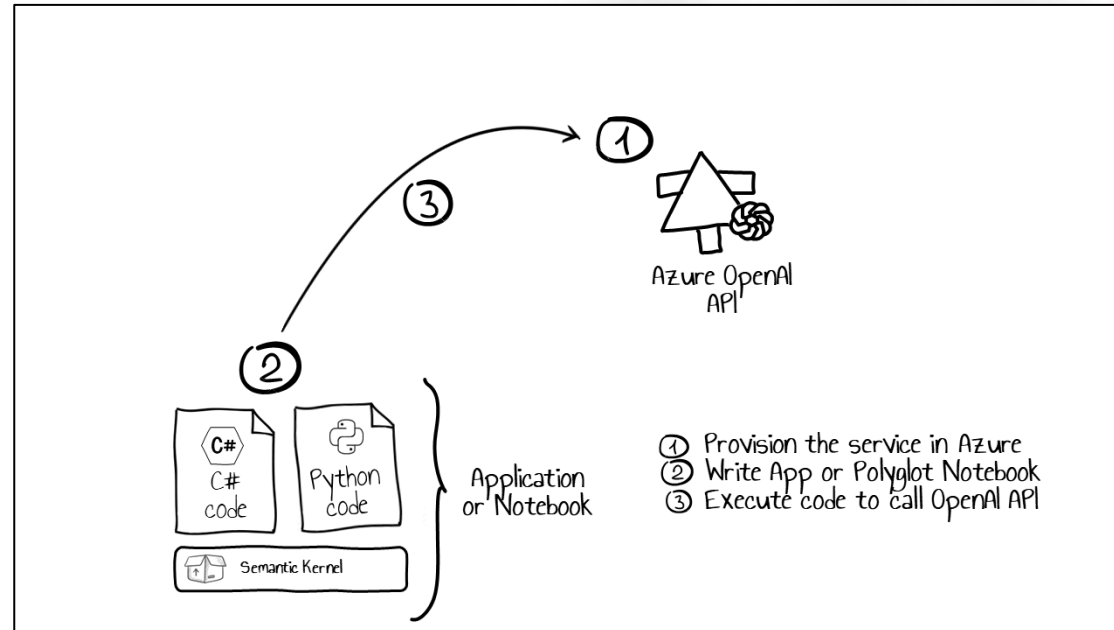
Python, C#, Java

aka.ms/semantickernal

Blog Post

Using Semantic Kernel for Azure OpenAI

https://medium.com/@adnan_hashmi/azure-openai-using-semantic-kernel-7f52d53a8dc8



Code

GitHub Repo

<https://github.com/adnanhashmi/azure-openai>



Thank You!



Adnan Hashmi

in aka.ms/Adnan

X pkstn.co/Adnan

Voice Clone by



Video Created By

