# ChatGPT Dev Talk

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- Send me **Feedback**! mike@benko.com
- Azure **Office Hours** on Fridays! https://bit.ly/BnkAzHrs

## Today…

Hello ChatGPT

Large Language Models

Chat and Co-pilots

OpenAI Service

Prompt Flow

Next steps…

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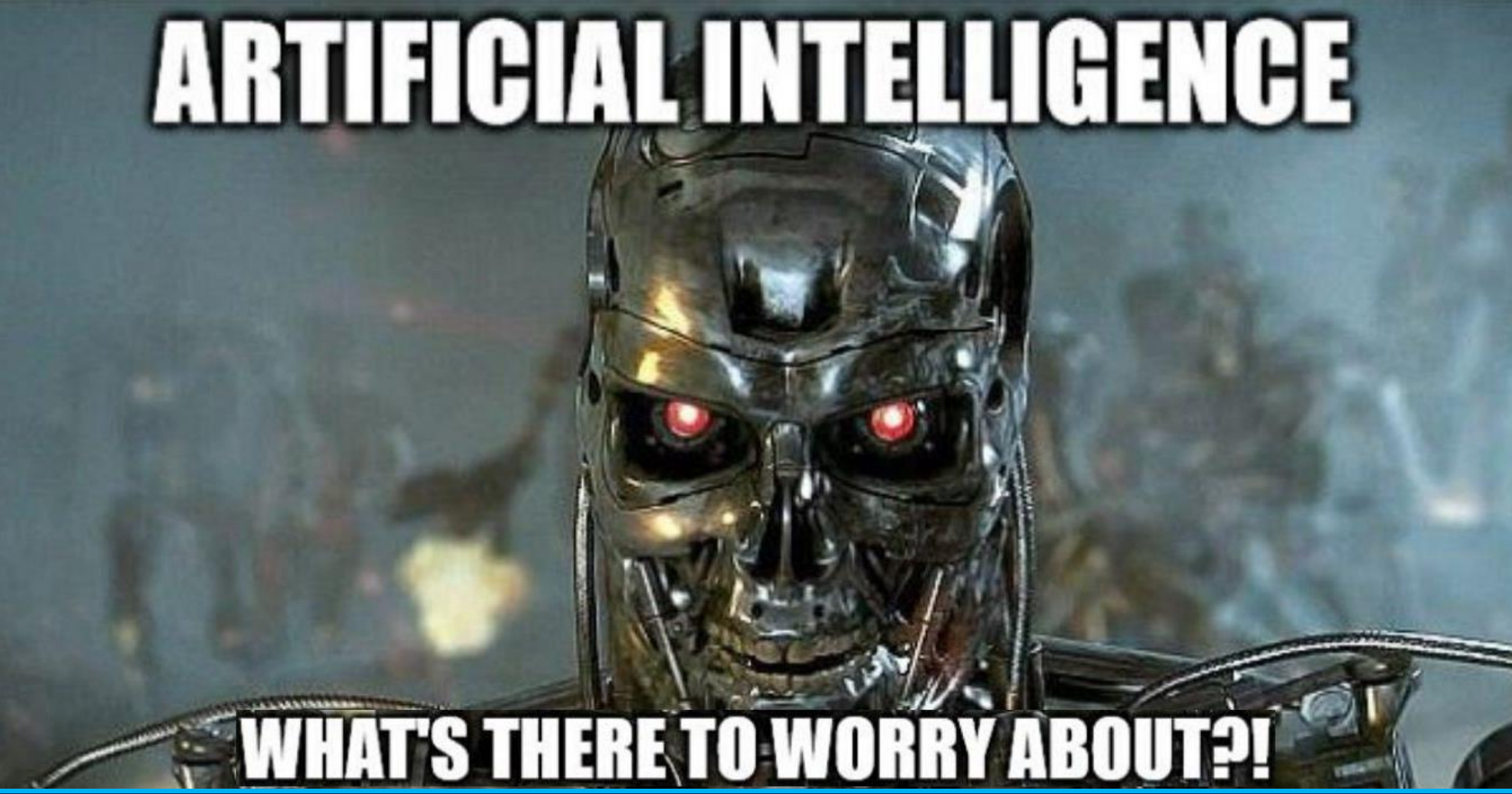


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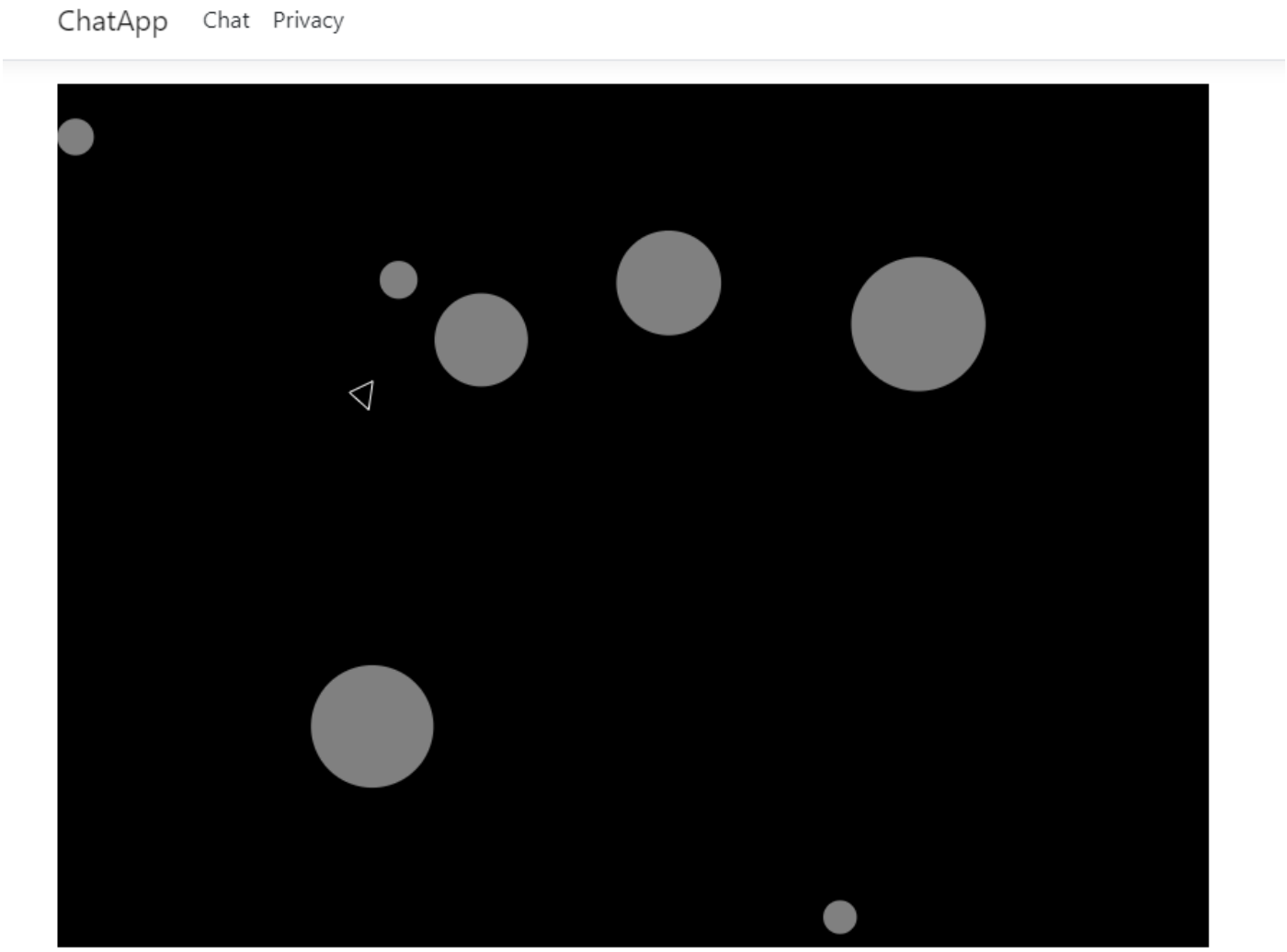
# Let’s play a game

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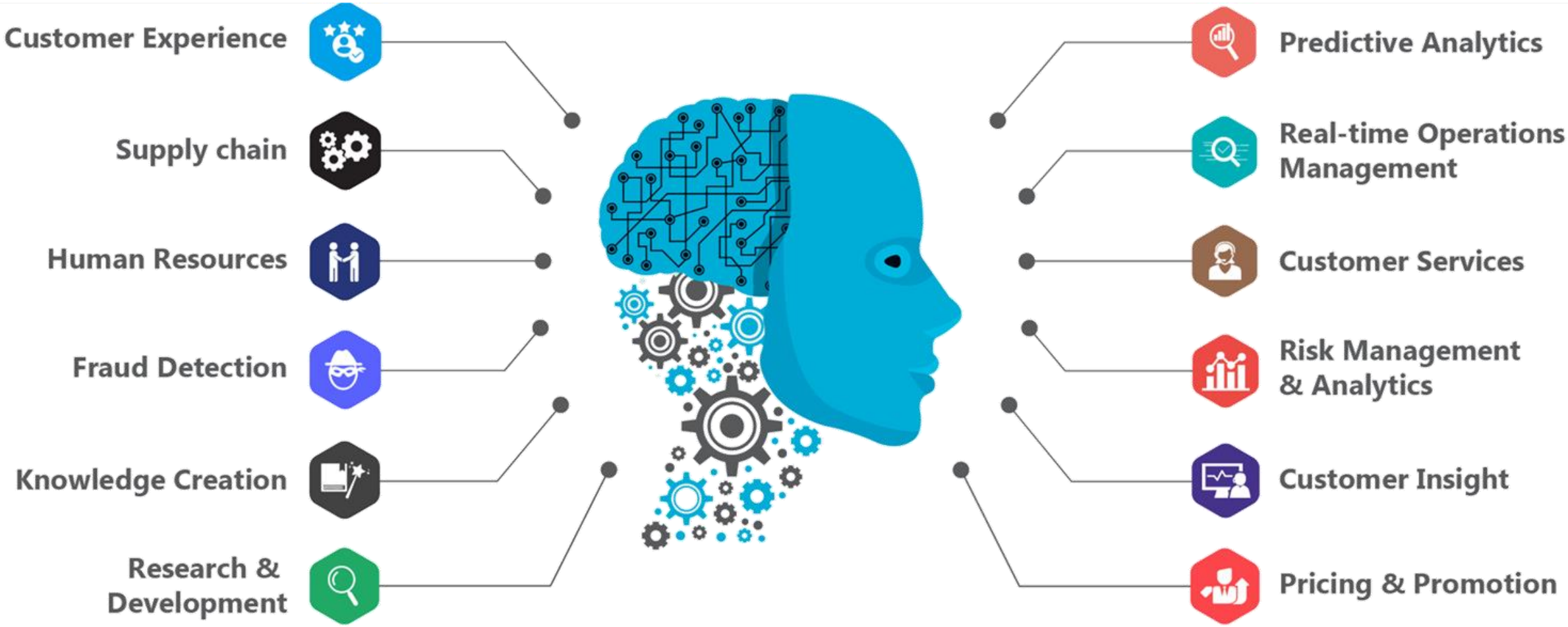
# AI Scenarios

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# What is a LLM

Prediction engine

What comes next?

What do I know about you?

How do I figure it out?

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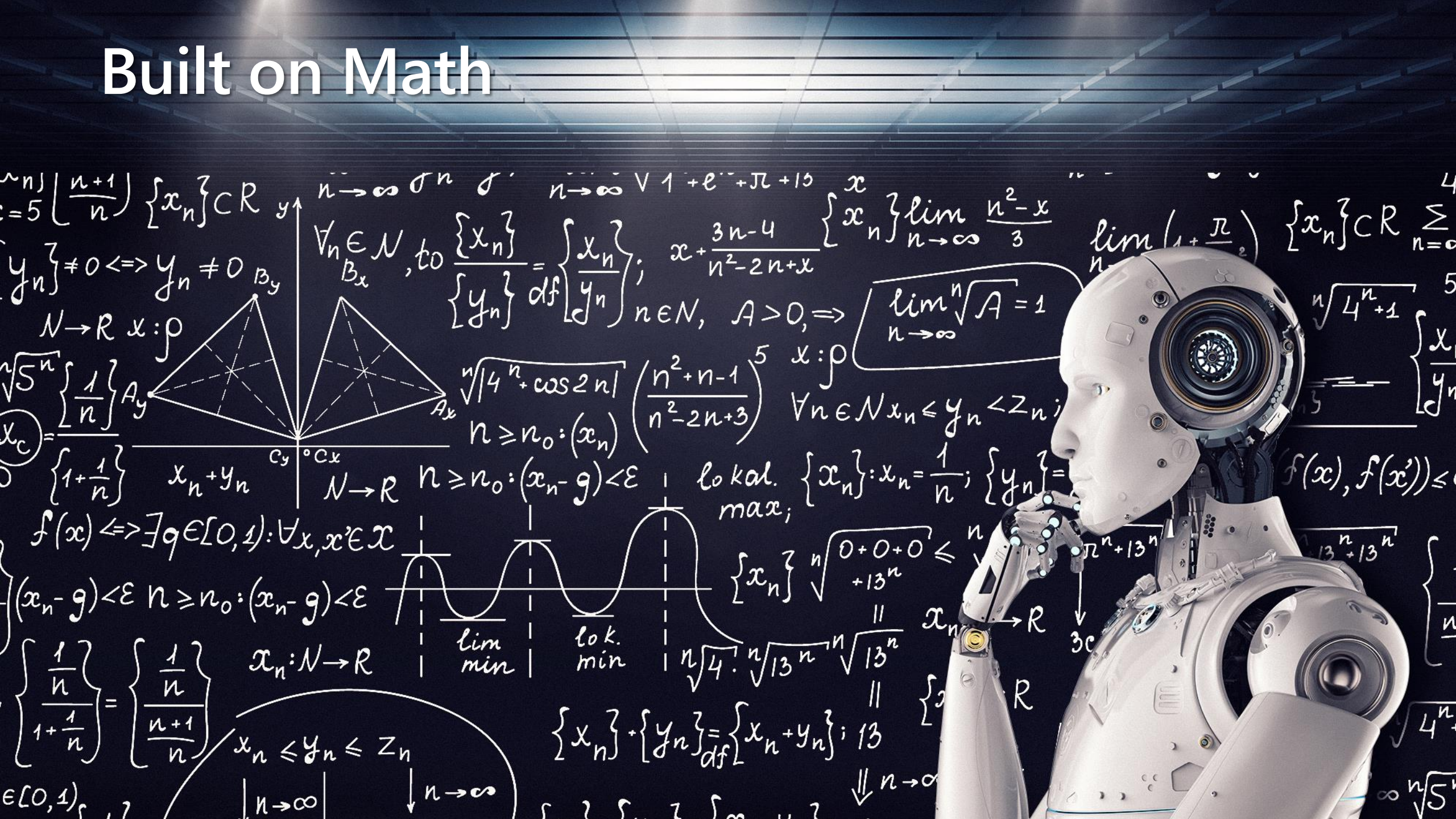
# Built on Math



# GPTs *(generative pre-trained transformer)*

Provide text outputs in response to inputs

Code generation

Summarization

Conversation

Creative writing

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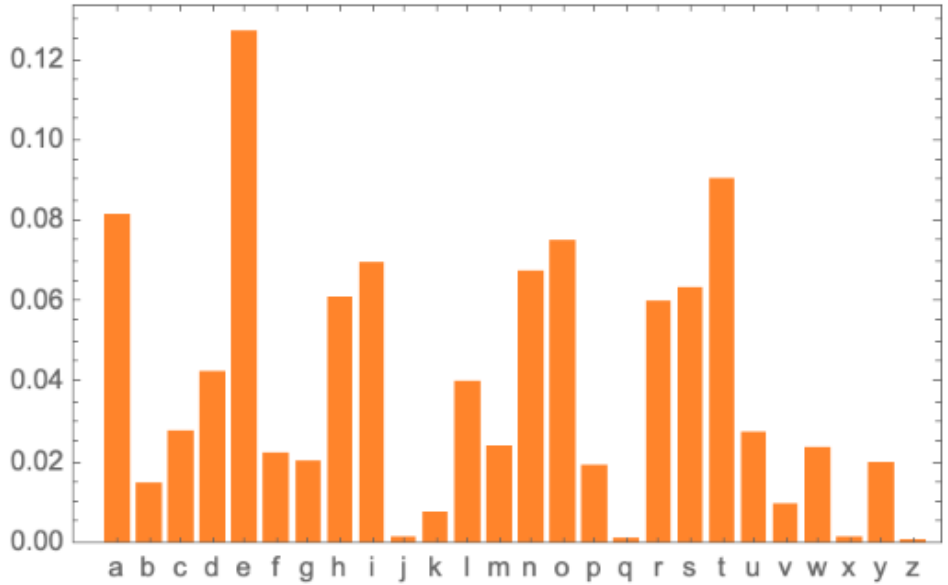
# What comes next?

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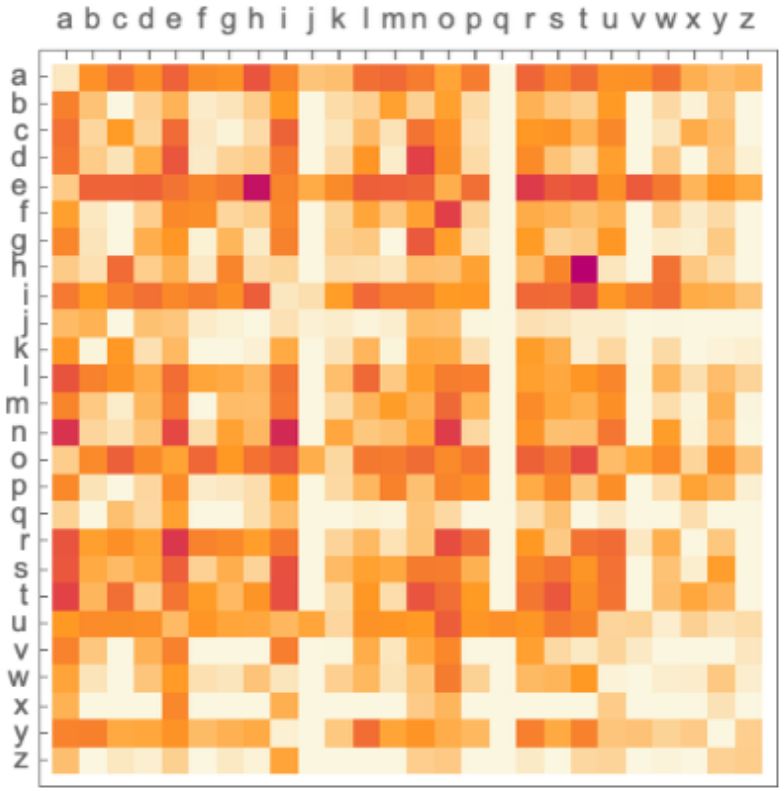
# 2-grams … i.e. pairs of letters

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# Large Language Models

## Prediction engine

what comes next?

## Neural Network

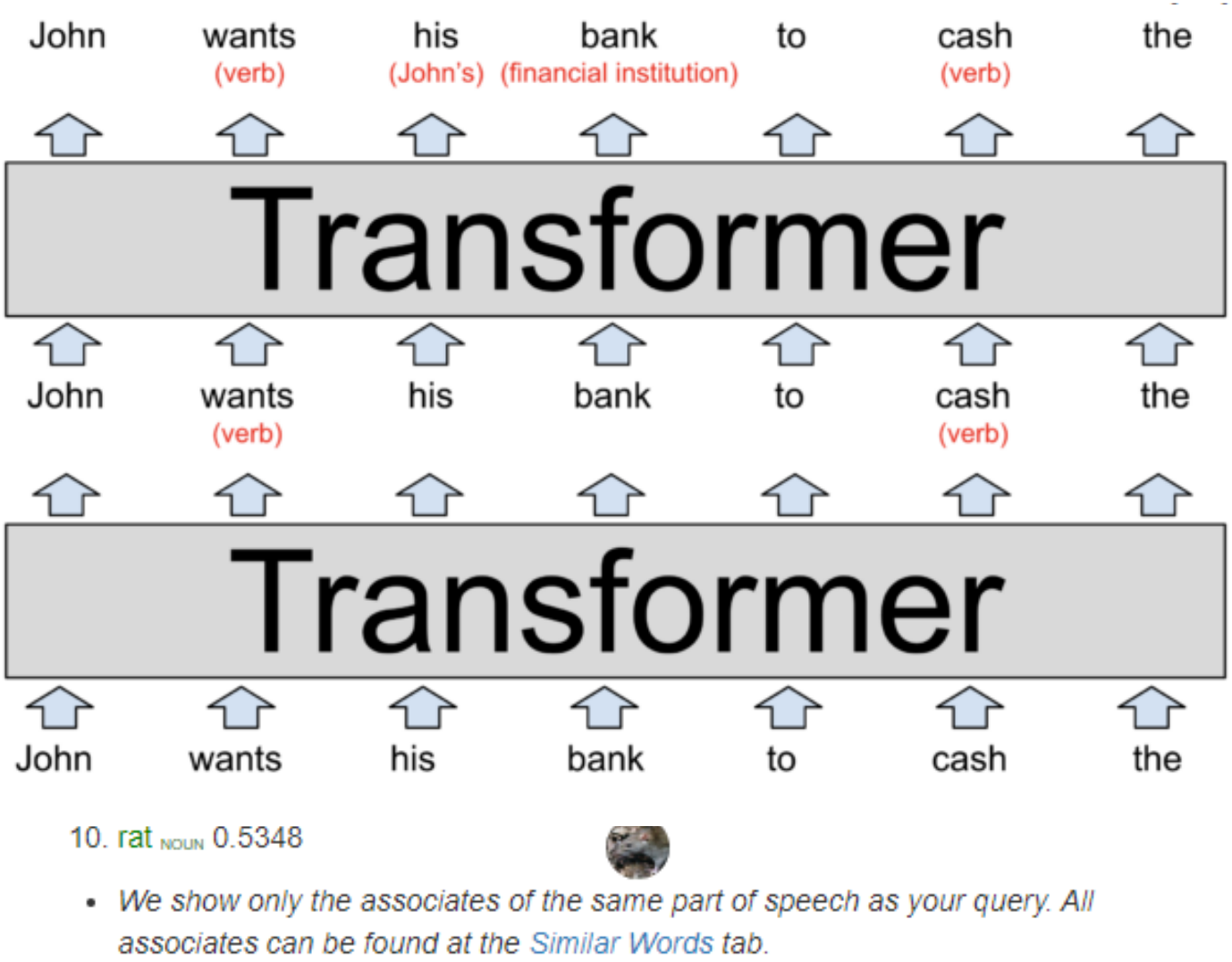
Google word2vec project 2013

## Word Vector Based

GPT-3 uses word vectors with 12,288 dimensions

## Transformer Layers

GPT-3 has 96 layers, with 96 attention heads = 9,216 ops to predict a new word




A jargon-free explanation of how AI large language models work | Ars Technica - https://bit.ly/arsLLM1

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# History of GPT

GPT-1: **The First step** *(2018) 110 million parameters*

GPT-2: **The Sequel** *(2019)* 1.5 billion parameters

GPT-3: **The Game Changer** *(2020)* 175 billion params

GPT-3.5: **The Awakening** *(2021)*

GPT-4: **And Beyond…**

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# Prompts and Tokens

https://platform.openai.com/tokenizer

Vector Databases

RAG – Retrieval Augmented Pattern

Prompt Flow

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# Dovetail jig

import { fetch } from "fetch-h2";
// Determine whether the sentiment of text is positive
web service
tion isPositive(text: string): Promise<boolean> {
onse
"POST",
`text=${text}`,
headers: {
"Content-Type": "application/x-www-form-urlencoded",
GitHub Copilot

# Copilot

How can I help?

Pay atterntion…

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OpenAI
Microsoft

Flow-created-on-... Chat

Runtime * managed-runtime-01

Bulk test | Chat

+ LLM | + Prompt | + Python | + More tools

**chat** llm

Show variants

Connection: No connection available + Add connection

deployment_name | temperature: 0.7 | stop | max_tokens: 256

**Advanced**

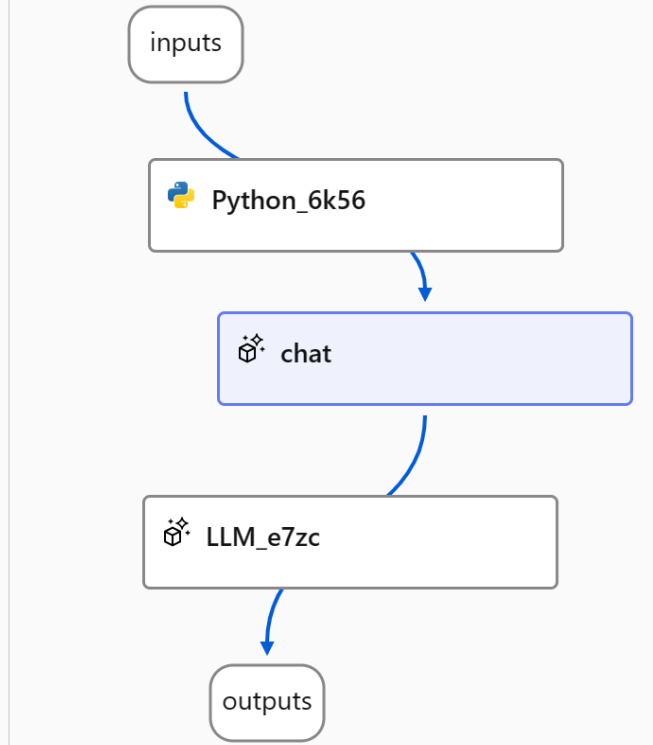
top_p | presence_penalty | frequency_penalty | logit_bias

**Prompt** Wrap text Diff mode

```
1  system:
2  You are a helpful assistant.
3
4  {% for item in chat_history %}
5  user:
6  {{item.inputs.question}}
7  assistant:
8  {{item.outputs.answer}}
9  {% endfor %}
10
11 user:
12 {{question}}
```

**Inputs** Validate and parse input

| Name | Type | Value |
|---|---|---|
| question | string | ${inputs.question} |




100%

# Lessons learned

Fear not…

Learn to ask better questions

Practice

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Doing things right

is not the same as

Doing the right things

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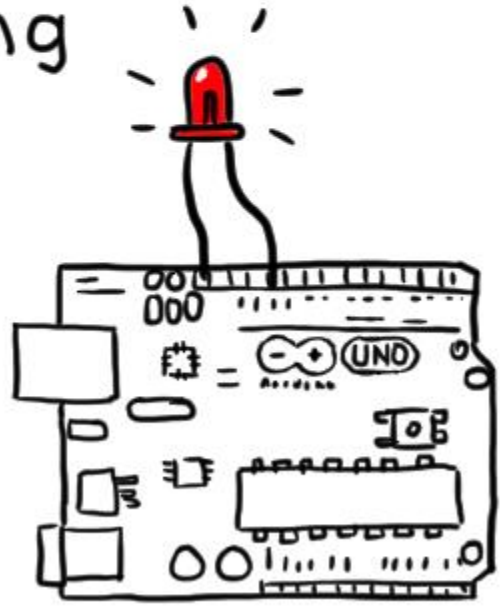
Just finished my first Arduino project:
A blinking led.




Next Step:
Update my LinkedIn profile.

Add Skill

Mechatronic Engineer

http://turnoff.us/geek/arduino-project/

# Conclusion

The **journey** to the cloud can be challenging

Take it a **step** at a time

Be aware of the **tools** that can ease the way

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# Call to Action – Where can I get more info?

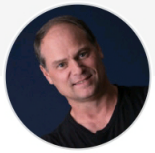
Visit my blog

[www.benkotips.com](http://www.benkotips.com)

Schedule a **workshop** to make your IT workforce cloud aware

[mike@benko.com](mailto:mike@benko.com)

Try it out with **low hanging fruit** white chips



**Mike Benkovich**

Enterprise Cloud Architect, Consultant, Developer Tools Ev...

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# References

- What Is ChatGPT Doing … and Why Does It Work?—Stephen Wolfram Writings
- Seth Juarez – Roshambo

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