# ChatBots

# Agenda

**01**  **Use Cases**

**02**  **How Does It Know?**

**03**  **20 Questions**

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# Use Cases

# Use Cases

## Uses

- Internal IT Support/Ticketing
- L1 Customer Support
- Product Recommendation
- Order Tracking
- Appointment Scheduling
- Lead generation

## Benefits

- 24/7 availability
- Decreased response times
- Improved process efficiency
- Proactive engagement
- Personalized interactions/relationship
- Free human agents for unique tasks

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# How Does It Know? ↘️

# How does it know?

| Then… |
|---|
| - Keyword detection |
| - Pre-programmed responses |
| - Pre-programmed options/decisions |
| - Limited interactions |

| … Now |
|---|
| - AI chatbots use ML, NLP, and LLMs to power conversation |
| - Generative responses |
| - Guided decision-making with goals and high-level instructions |
| - Example conversations provide few-shot prompting to AI |
| - RAG provides a knowledge base for support/interaction |

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# RAG: Retrieval Augmented Generation

AI Models are snapshots → RAG lets us provide domain knowledge

GenAI can hallucinate → Factual grounding mitigates this chance

Models may share data → RAG architecture CAN be more secure

AIs are trained on old data → RAG allows for new/updated information

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# RAG: Retrieval Augmented Generation

Semantic storage focuses on the meaning and
relationships between pieces of information,
rather than simply storing raw data.

Vector databases store data as high-dimensional
vectors. These vectors represent the semantic
meaning of the data, such as the meaning of text,
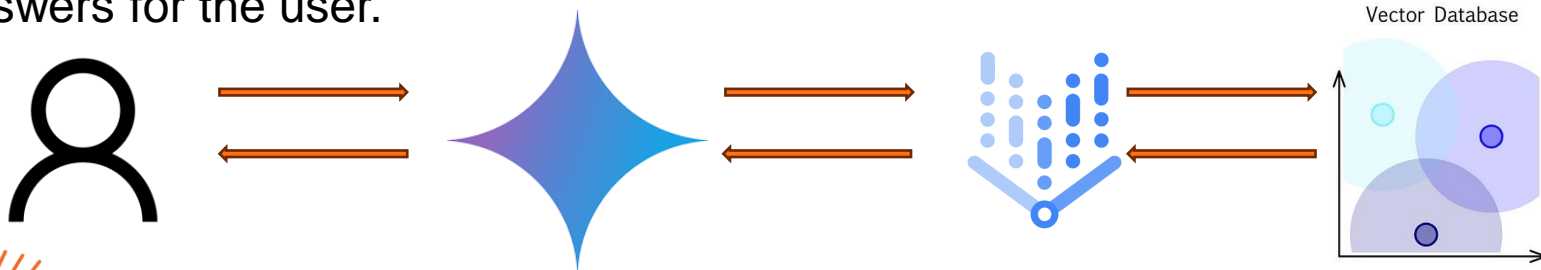images, or other types of information.

The core function of a vector database is to
efficiently find the most semantically similar
vectors to a given query vector. This allows for
searching and retrieving information based on
meaning, not just keywords.

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# RAG: Retrieval Augmented Generation

- A vector DB is loaded with relevant data.

- When a use sends a question to the AI…

- The AI begins by determining a core topic…

- And starting a semantic search for that topic.

- The search finds resources with strong relationships to the identified core topic…

- And returns that information to the AI…

- Which uses that contextual knowledge to generate more relevant answers for the user.

# 20 Questions

# 20 Questions

## Select a chatbot…

- https://www.1800flowers.com/
- https://insomnobot3000.com/
- https://us.dollarshaveclub.com/
- https://www.jackboxgames.com/

## … and test it out!

Use the chatbot to:
- learn about a product
- find a personalized result
- browse additional resources

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# Thank You!

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