Thriving with AI: Finding the Right AI Tools

Rehmann

EMPOWER YOUR PURPOSE®

Meet the Panelists

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Agenda

1. Quick Review
2. Data Structure
3. AI Maturity Model Tools
4. Explore LLMs
5. Q&A/Closing

Which AI is best for your purposes?

When it comes to your business, it's essential to understand which type of AI you need based on your specific goals and tasks.

General AI

If you want more versatile employees who can handle various tasks, General AI might be what you're looking for.

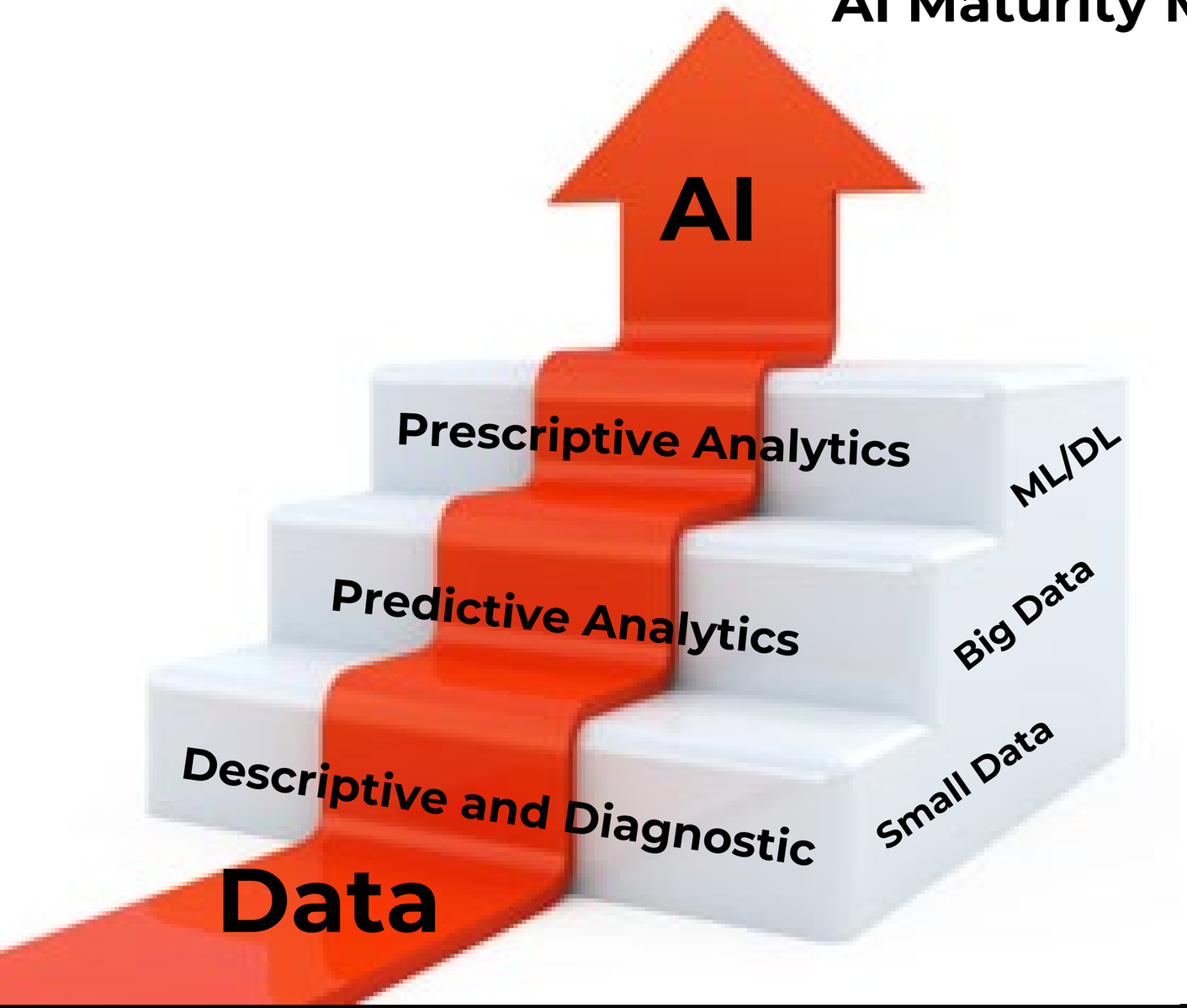
Narrow AI

If you need help with a single, well-defined task like data analysis or customer support, Narrow AI specialists might be the right choice.

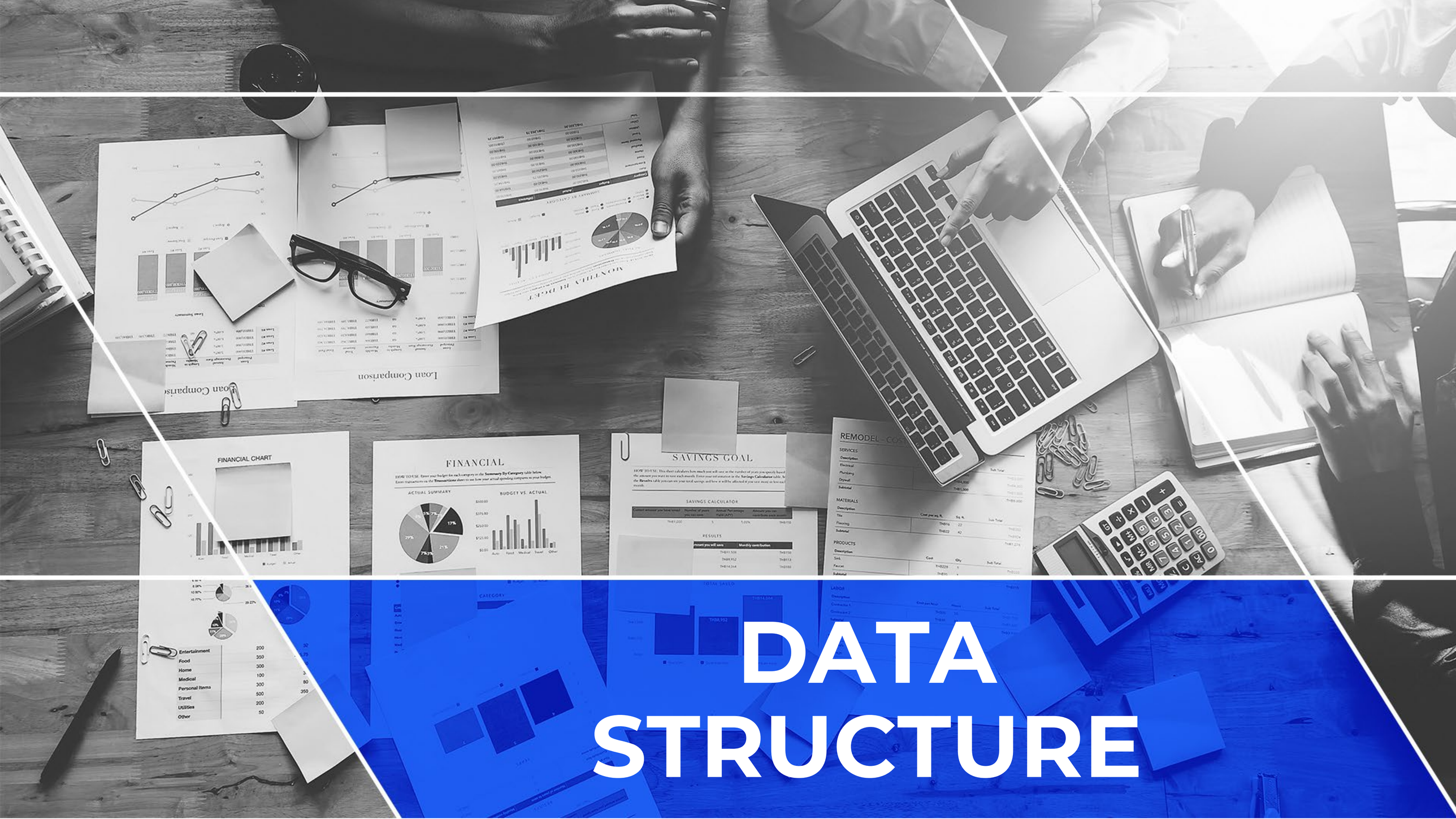
Generative AI

If you need creative content generation or imaginative solutions, Generative AI can be a valuable addition to your team.

AI Maturity Model



1. **Data**
   - Needs to be in order to get started
2. **Descriptive and Diagnostic**
   - Answer the What and Why
3. **Predictive**
   - Answers where a things are headed
4. **Prescriptive**
   - Answers what is next
5. **Value Chain**
   - Start with the Data



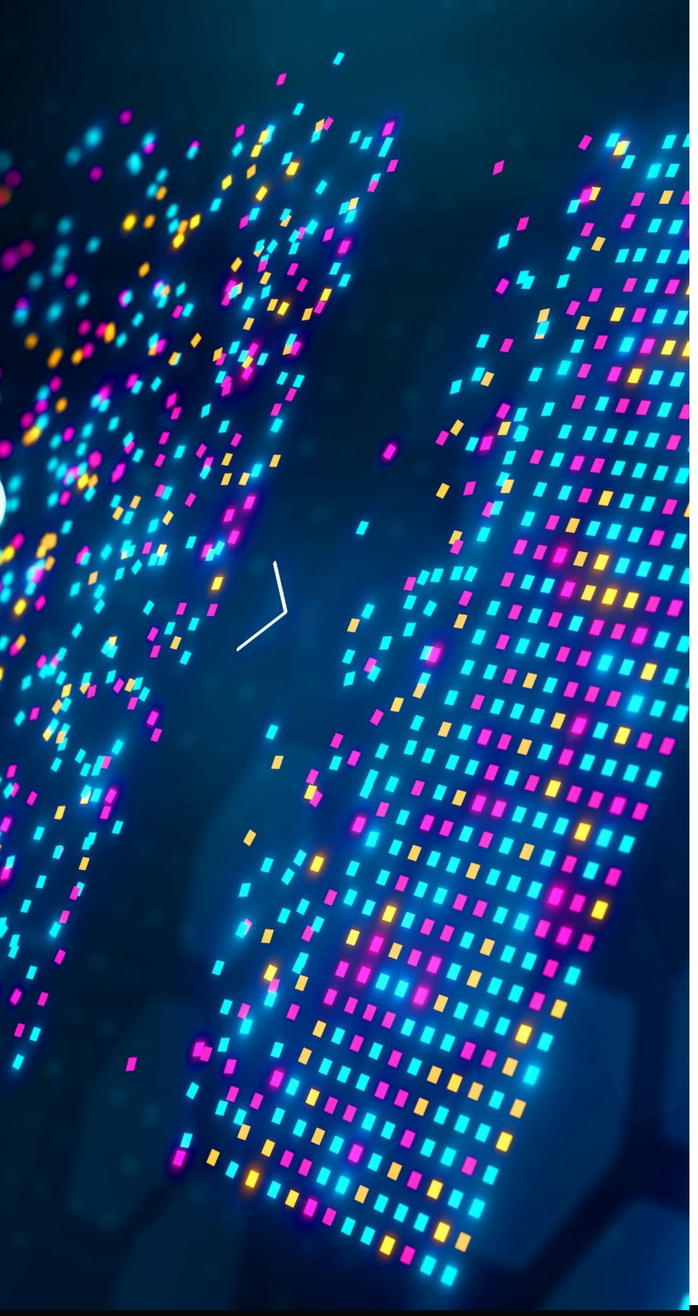
DATA STRUCTURE

Structured Data

Definition: Structured data is highly organized and easily searchable in databases or spreadsheets because it follows a specific format or model. It's typically managed in relational databases.

Employee Records in a Database: Information like employee ID, name, position, and salary stored in a database where each field is clearly defined.

Sales Transactions: Records of sales transactions that include transaction ID, date, product ID, quantity, and price, stored in a tabular format.



Semi-Structured Data

Definition: Semi-structured data doesn't fit into a rigid database structure but still has some organizational properties that make it easier to analyze. It includes tags or markers to separate semantic elements and enforce hierarchies of records and fields.

Online reviews: while the star ratings are structured, the written comments are unstructured.

Social media posts: posts on platforms like Reddit or Facebook have unstructured text or media, along with structured data like timestamps, likes, and number of shares.

Unstructured Data

Definition: Unstructured data is information that either does not have a pre-defined data model or is not organized in a pre-defined manner. It's challenging to process and analyze using conventional tools and methods.

Business Documents: the content of Word documents, PDFs, spreadsheets, and presentations.

Videos and Images: media content such as YouTube videos, Instagram photos, and surveillance footage.

HOW DO WE STORE DATA?

What is a Data Warehouse?

Supports business decision-making

Business intelligence activities

Consistent and historical view of data

Enables data mining, predictive analytics, and machine learning insights through AI

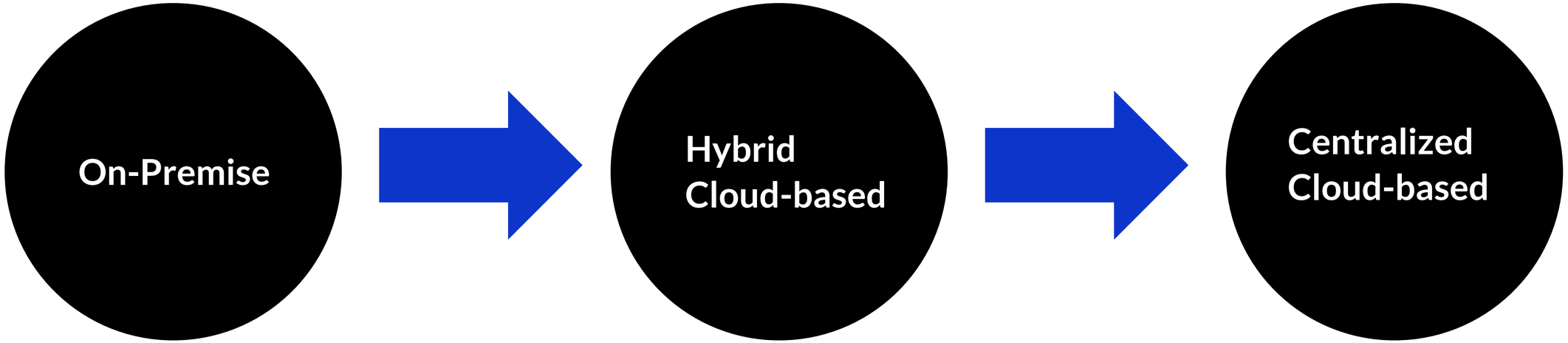
The Traditional Data Warehouse Model

Traditional and still most common data warehouse model	Single source of truth for an entire organization	Based on relational database technology
High data quality, consistency, and security	Requires high maintenance, complex processes, and rigid data structures	Top-down approach: schema is designed first, then data sources are mapped into that structure.

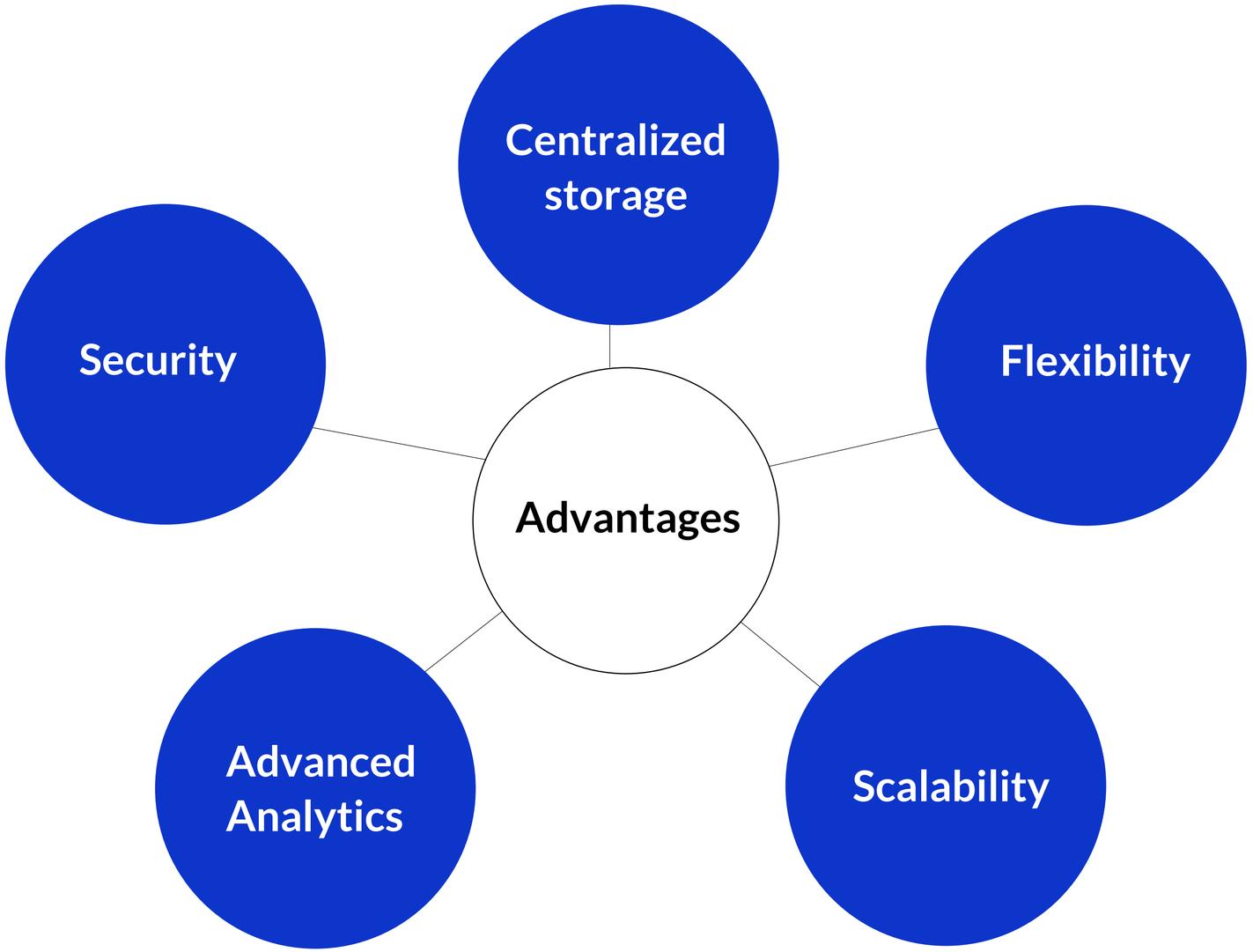
The Data Lake Model

A vast reservoir – everything you know, everything you have, all together in one place

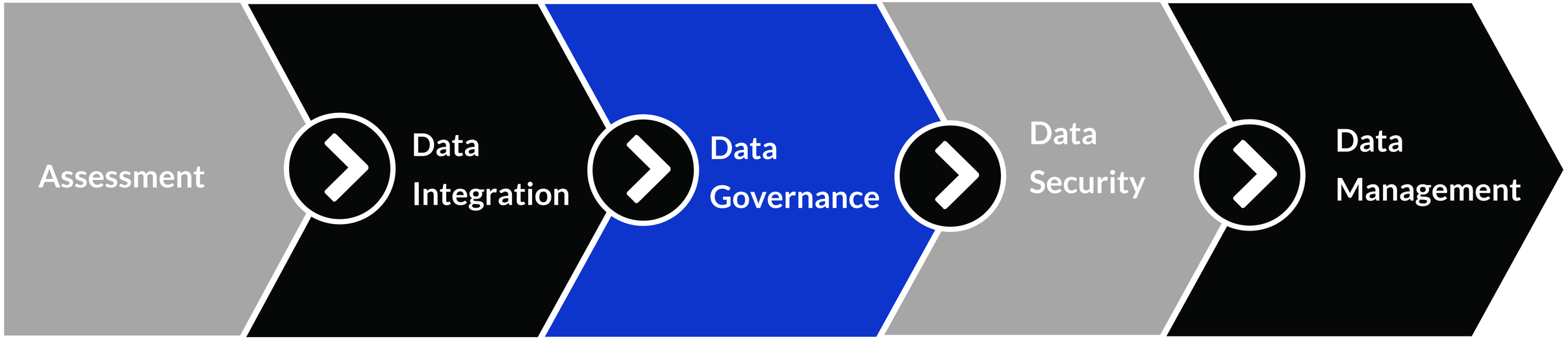
Where is Technology Headed?



Data Lake


Centralized storage
Security
Flexibility
Advantages
Advanced Analytics
Scalability

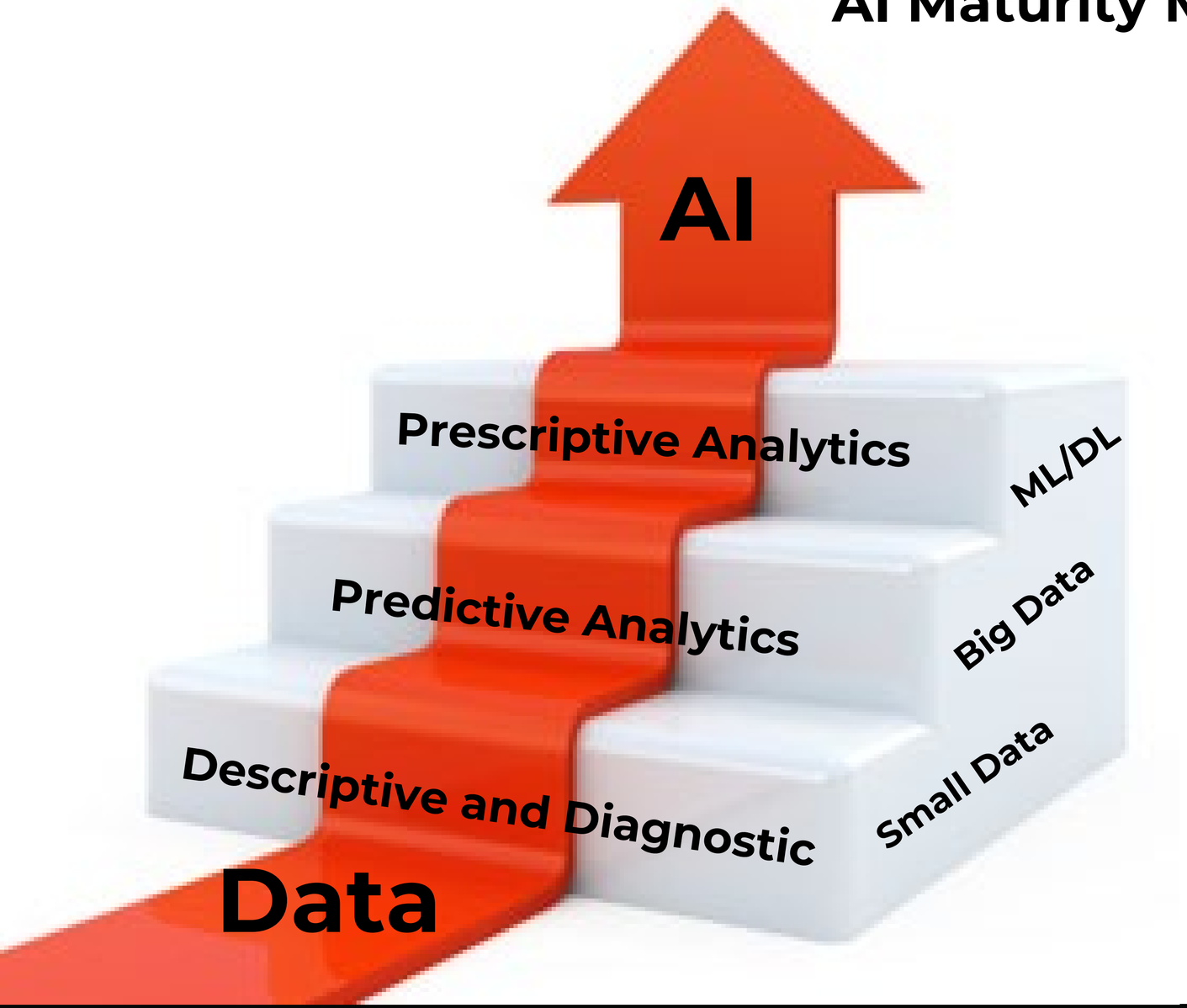
Data Lake - Implementation



Serving people and protecting futures are at the heart of Wolverine Fire Protection Co., and Rehmann empowers this multi-generational business to continue this legacy.

AI TOOLS

AI Maturity Model



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Extract, Transform and Load (ETL)

ETL is a process that involves extracting data from various sources, transforming it into a usable format, and loading it into a destination such as a data warehouse or database, enabling businesses to analyze and derive insights from their data.

Microsoft Fabric

Microsoft SQL Server Integration Services

ORACLE DATA INTEGRATOR

Informatica

talend

Descriptive and Diagnostic - Analytics

Descriptive analytics **focuses** on summarizing historical data to understand past events and trends, providing insights into what has happened in the past.

Diagnostic analytics **involves** analyzing data to determine the root causes of past events or outcomes, helping to explain why certain outcomes occurred

Google Data Studio

+ a b | e a u

Microsoft Fabric

Qlik

ORACLE Analytics

Predictive & Prescriptive Analytics

Predictive analytics utilizes historical data and statistical algorithms to forecast future events or trends, enabling organizations to anticipate outcomes and take proactive measures.

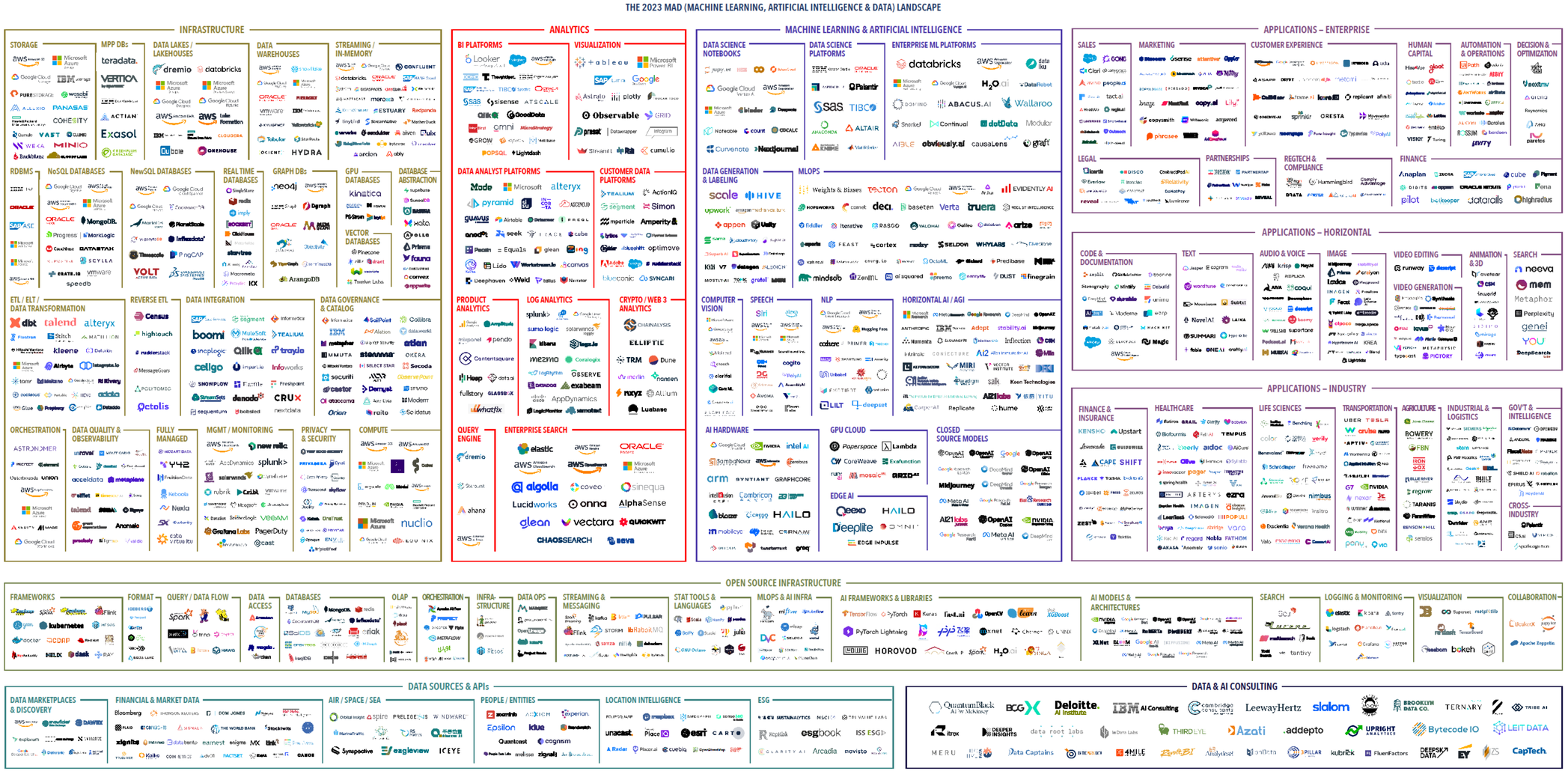
Microsoft Fabric

Google's AutoML

python™

Prescriptive analytics goes beyond prediction to recommend actions or strategies based on predictive insights, guiding decision-makers on the best course of action to achieve desired outcomes

Challenge - Wall of Complexity



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Comments? Email MAD2023@firstmarkcap.com

FIRSTMARK
EARLY STAGE VENTURE CAPITAL

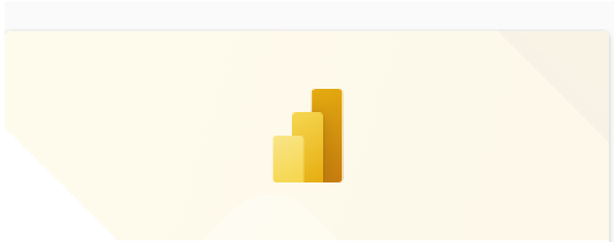
Rehmann

What is Microsoft Fabric?

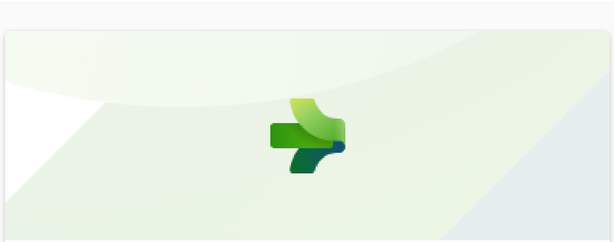
What is Microsoft OneLake?

1. Cloud-based data warehouse solution in Microsoft Azure
2. Leverages Azure Data Lake Storage (ADLS) and Azure Synapse Analytics (ASA) services
3. Scalable and secure data lake that can store and process any type and size of data
4. Powerful and integrated data warehouse that can perform advanced analytics and machine learning
5. Integrated with Microsoft Fabric

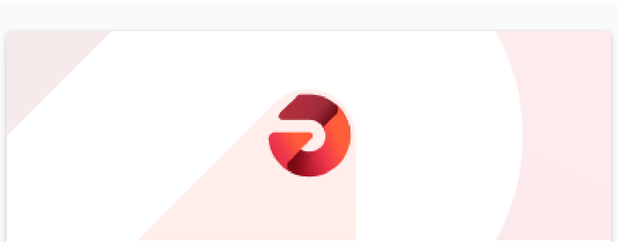
Microsoft Fabric



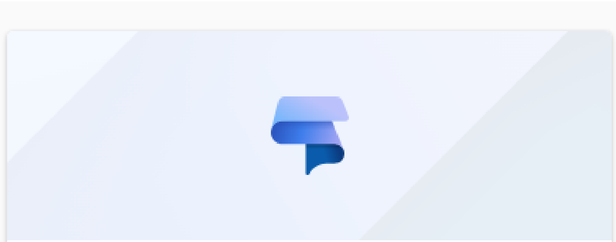
Power BI
Find insights, track progress, and make decisions faster using rich visualizations.



Data Factory
Solve the most complex data integration and ETL scenarios with cloud-scale data movement and data transformation services.



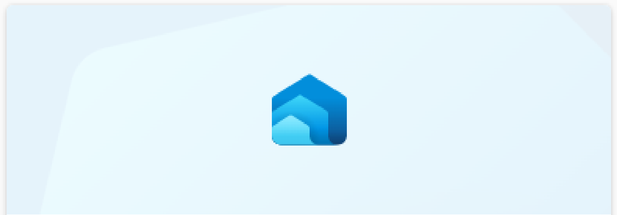
Data Activator
Monitor data to trigger alerts and automated actions so your organization adapts to changing conditions in real time.



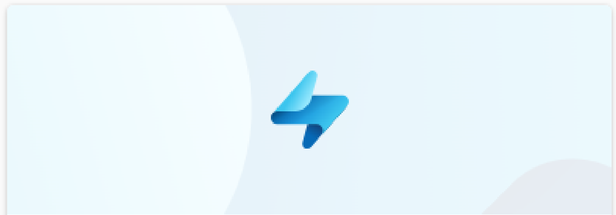
Industry Solutions
Get a head start with industry-relevant connectors, transformations, and scenario-specific tools.

Synapse Data Engineering
Create a lakehouse, and use Apache Spark to transform and prepare organizational data to share with the business.

Synapse Data Science
Explore your data, and build machine learning models to infuse predictive insights into your analytics solutions and applications.

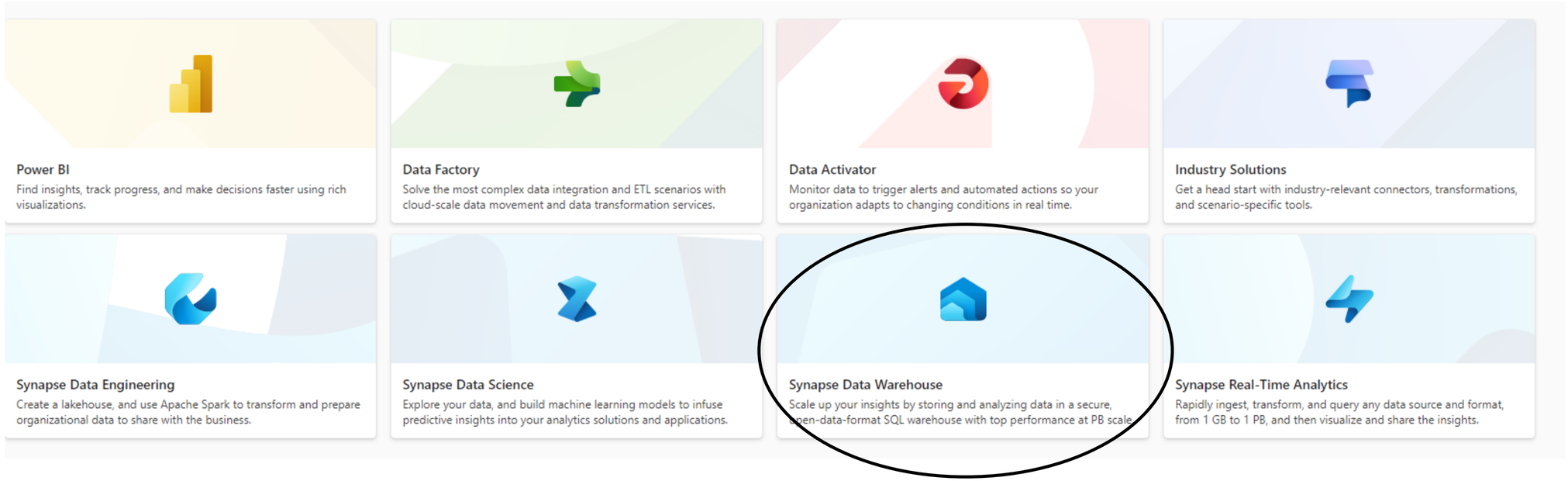


Synapse Data Warehouse
Scale up your insights by storing and analyzing data in a secure, open-data-format SQL warehouse with top performance at PB scale.



Synapse Real-Time Analytics
Rapidly ingest, transform, and query any data source and format, from 1 GB to 1 PB, and then visualize and share the insights.

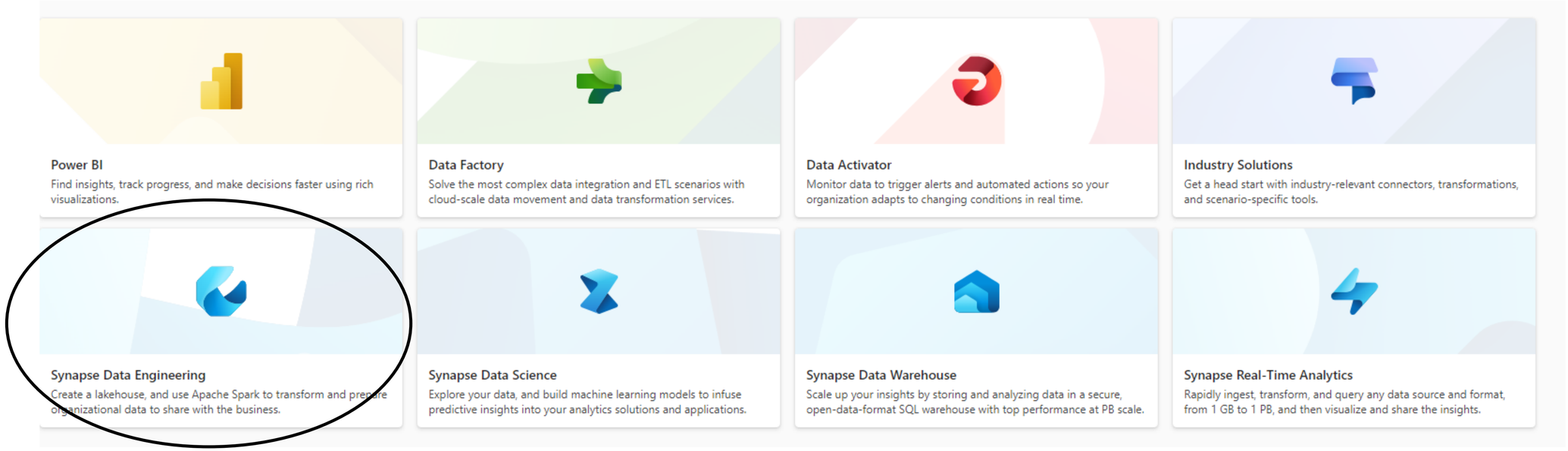
Data Warehouse



Microsoft Fabric Data Warehouse is a database system that stores data in OneLake and provides an intuitive way to interact with the database using SQL commands.

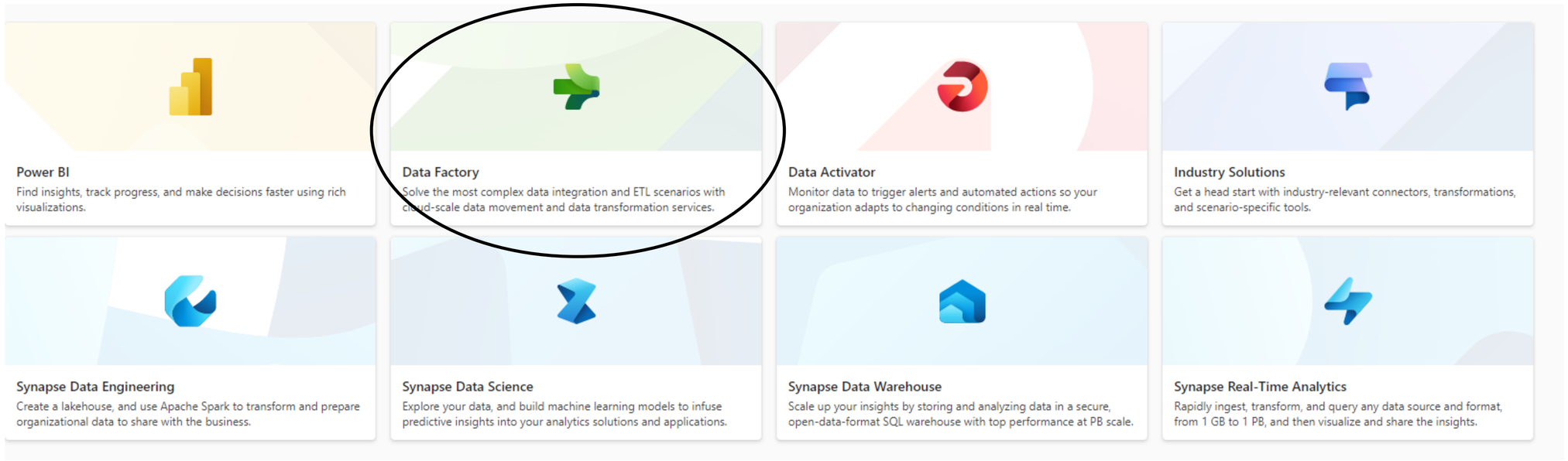
It's designed to simplify an organization's investment in their analytics estate by converging data lakes and warehouses, ensuring seamless data preparation, analysis, and reporting.

Data Engineering



Data engineering in Microsoft Fabric empowers users to design, build, and maintain infrastructures and systems that enable organizations to collect, store, process, and analyze large volumes of data. It's all about creating the backbone for efficient data handling and transformation, ensuring that valuable insights can be extracted from raw data.

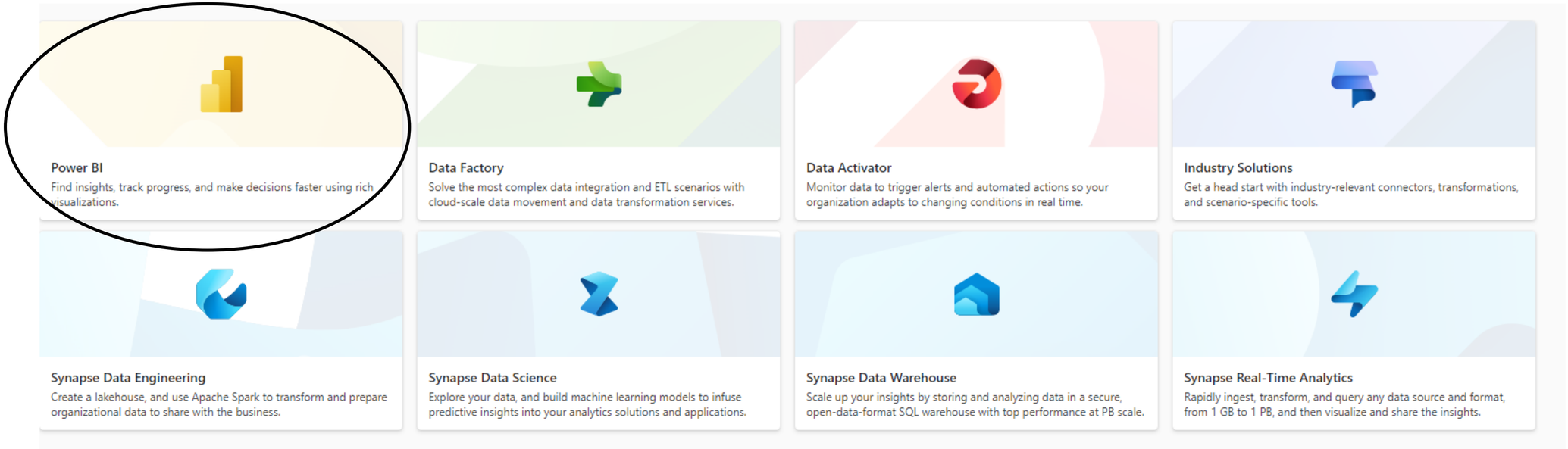
Data Factory (Azure)



Azure Data Factory is a managed cloud service designed for complex data integration projects. It orchestrates and transforms data from various sources, both on-premises and in the cloud, into actionable insights.

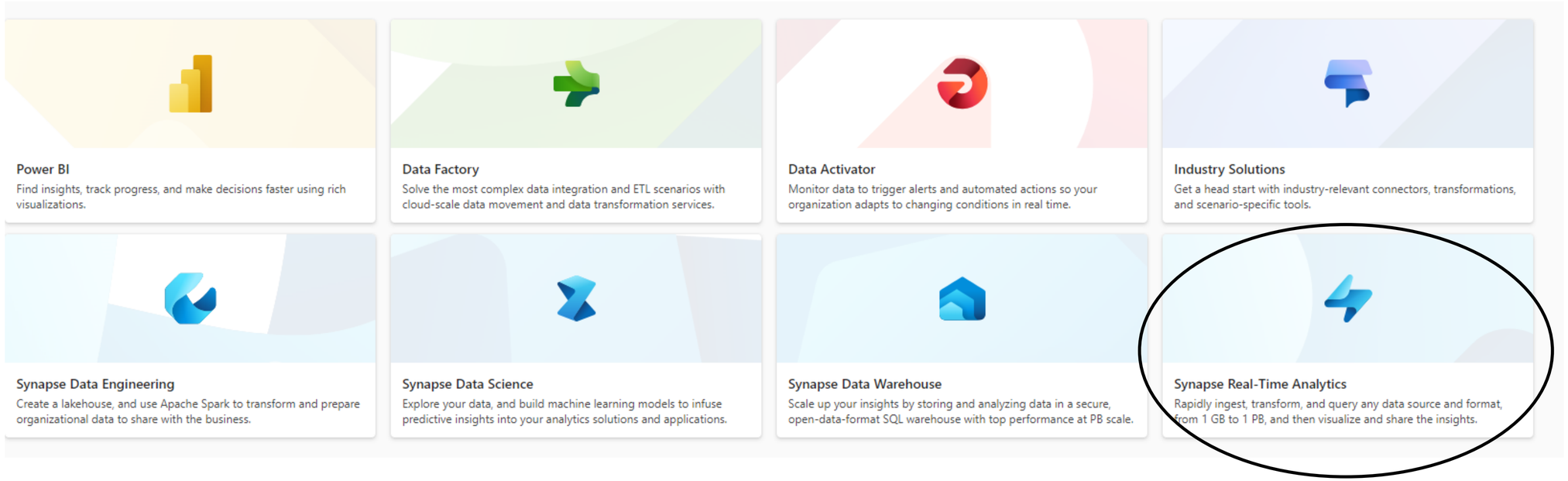
Think of it as a powerful tool that refines raw data into valuable business information, connecting the dots across different data stores and formats.

Power BI



Microsoft Power BI is a data visualization platform used primarily for business intelligence purposes. It enables business professionals to create visually immersive reports and dashboards from diverse data sources, including Excel spreadsheets and hybrid data warehouses.

Real Time Analytics

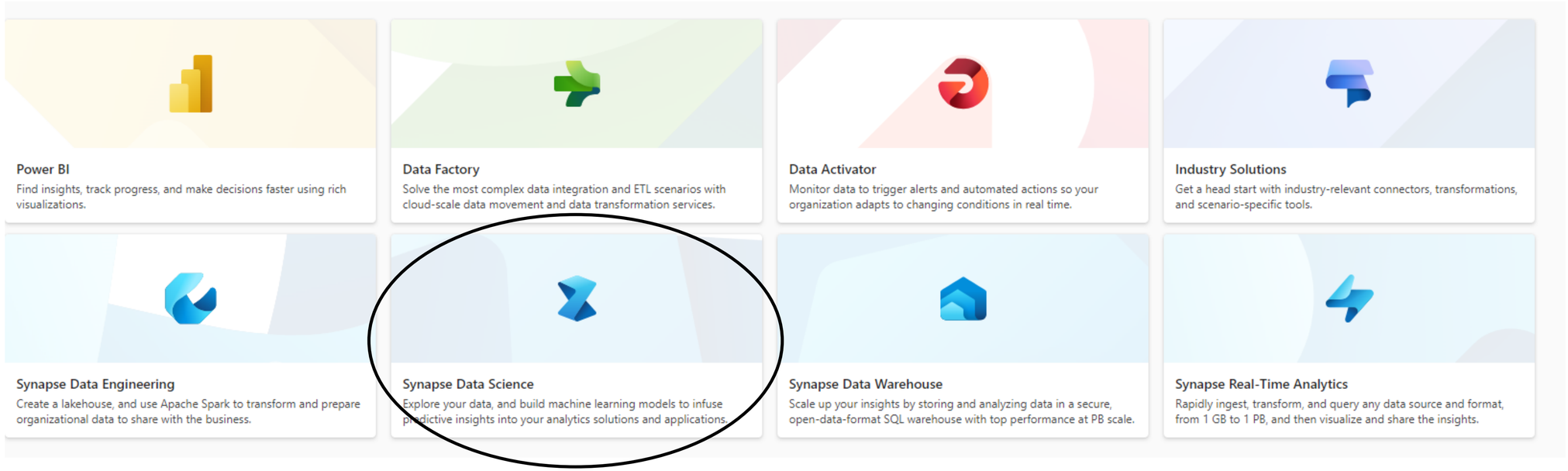


Real-Time Analytics in Microsoft Fabric is a fully managed big data analytics platform optimized for streaming and time-series data.

It simplifies data integration, allowing quick access to insights through automatic data streaming, indexing, and partitioning.

Users can query raw data without complex transformations, making it valuable for scenarios like cybersecurity, predictive maintenance, and customer experience.

Microsoft Fabric: Data Science



Data Science in Microsoft Fabric empowers users to complete end-to-end data science workflows for data enrichment and business insights. Here's a concise overview:

- Problem Formulation and Ideation
- Data Discovery and Pre-processing
- Data Exploration
- Experimentation and Modeling
- Enrich and Operationalize
- Gain Insights

LARGE LANGUAGE MODELS (LLMS)

Why Use Third Party LLMs?

Cost Efficiency

Scalability

Availability

Personalization

Innovation Potential

Risks in Using Third Party LLMs?

- Accuracy and Reliability
- Integration Challenges
- Data Privacy Concerns
- Depersonalization
- Ongoing Management

Use Cases for LLMs Out of the Box?

Draft and Edit Documents

Meeting Summarization

Research Assistance

Idea Brainstorming

Content Summarization

Customer Communication Templates

Use Cases for Third Party LLMs?

Customer Support Automation

Content Creation and Strategy

Personalized Marketing

Business Analytics and Reporting

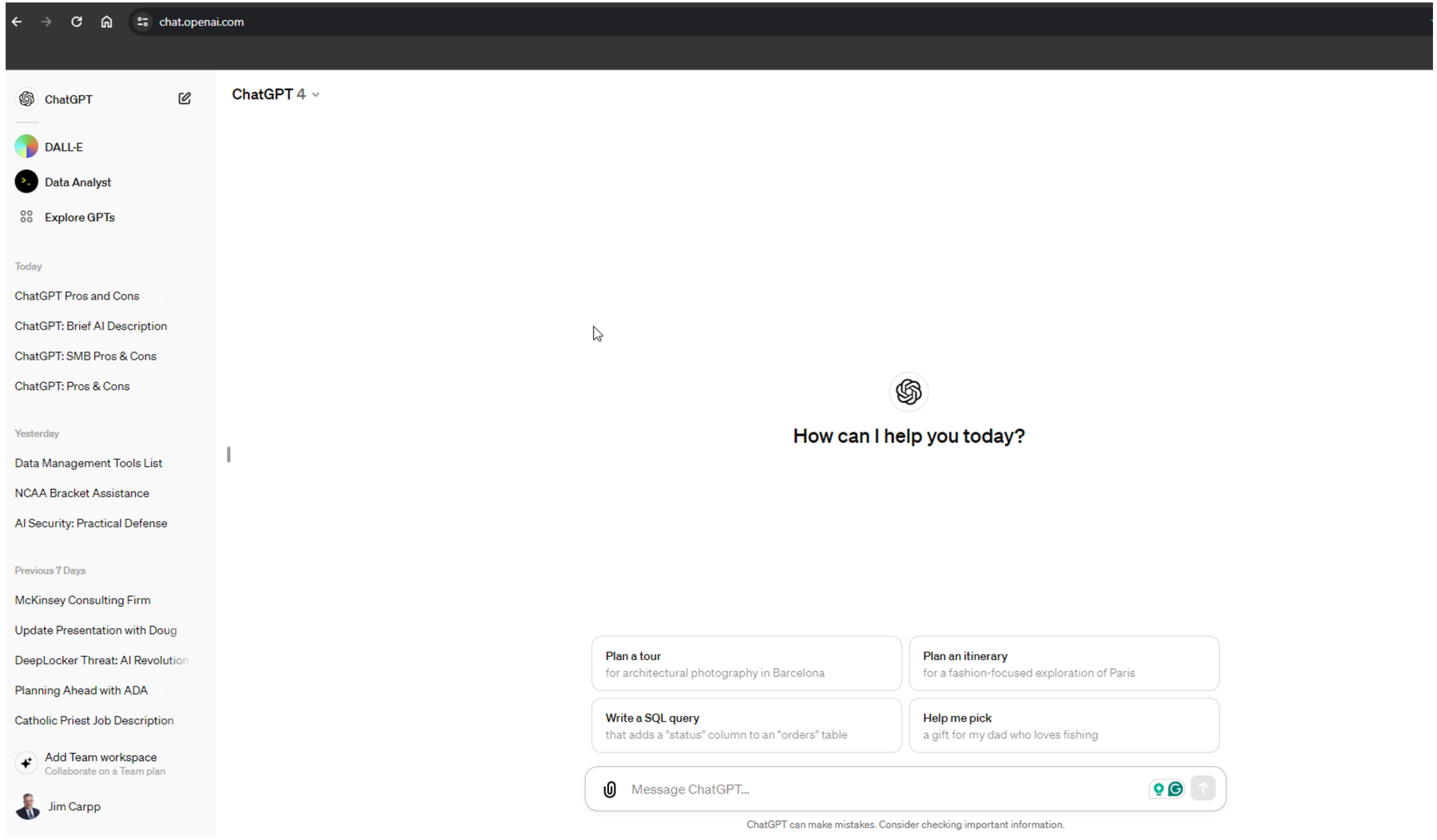
Efficient Document Processing

Large Language Models

ChatGPT

ChatGPT is an advanced AI language model developed by OpenAI, designed to understand and generate human-like text based on the input it receives. It's capable of engaging in conversation, generating written content across various genres, and assisting with a wide range of tasks, making it a versatile tool for both personal and professional use.

https://chat.openai.com/



ChatGPT – Road Test

Prompt

Write a summary of less than 100 words and cover artificial intelligence, narrow artificial intelligence, general artificial intelligence and generative artificial intelligence.

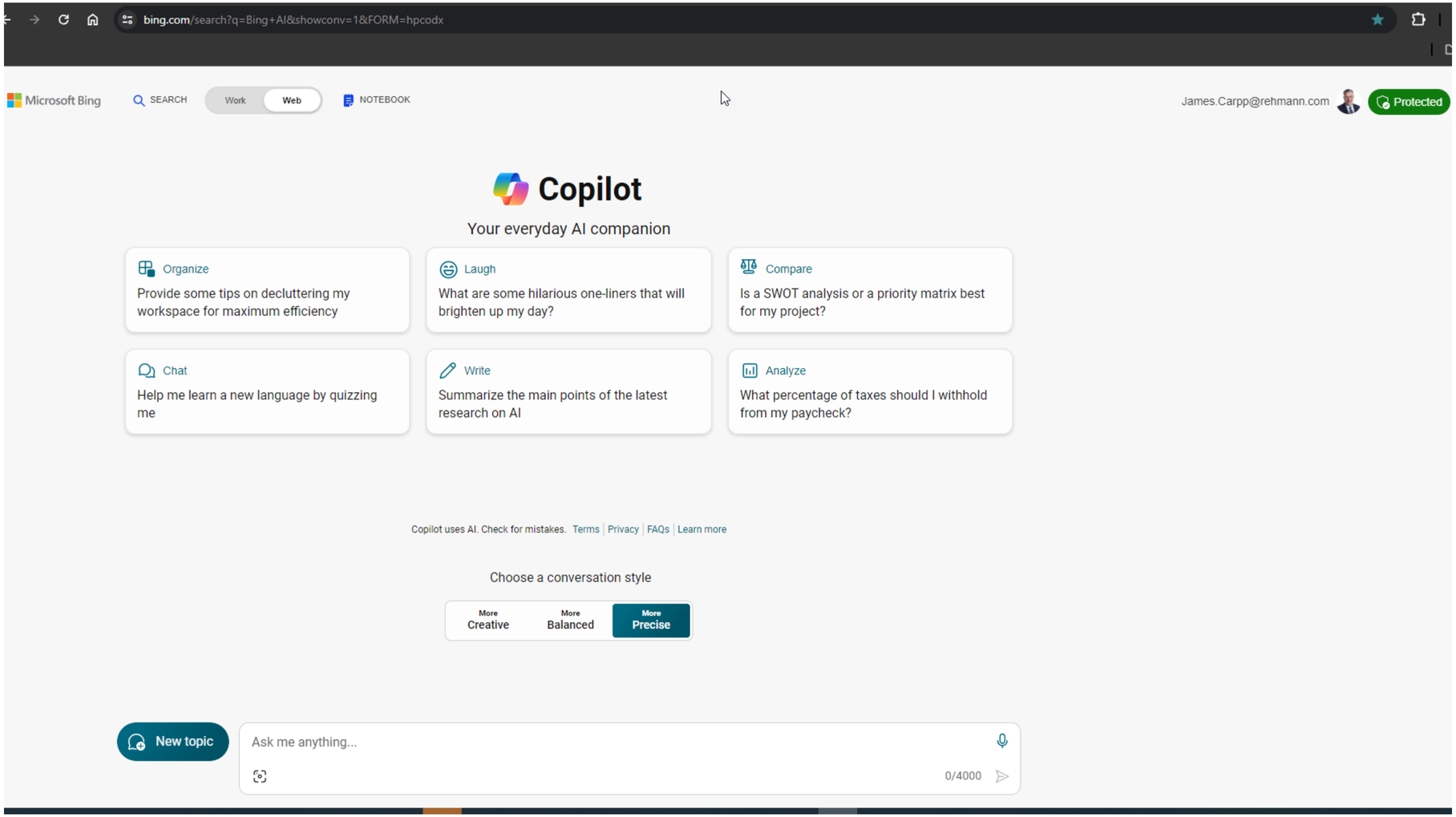
Result

Artificial Intelligence (AI) encompasses the development of computer systems capable of performing tasks that typically require human intelligence. Narrow AI refers to AI systems designed to perform specific tasks or solve particular problems, often with remarkable efficiency, but without the broader understanding or adaptability of humans. General AI, or strong AI, aims to create systems with the ability to understand, learn, and apply intelligence across a wide range of tasks, mirroring human cognitive abilities. Generative AI focuses on creating new content, such as text, images, and music, that is original yet plausible, based on learning from vast datasets.

Copilot

Microsoft Copilot is an AI-powered tool available across different Microsoft applications, built as a ‘sidekick’ for users to enhance productivity. It’s created in partnership with OpenAI and Microsoft and has abilities like ChatGPT. Different versions of Copilot are available specifically to cater to each Microsoft application.

https://copilot.microsoft.com/



The Many Faces Microsoft Copilot

Microsoft Copilot
(Bing Chat Enterprise)

Power Platform Copilot

Microsoft Security Copilot

Microsoft 365 Copilot

Dynamics 365 Copilot

GitHub Copilot

Copilot for Sales

Copilot for Azure

Copilot for Service

Copilot in Power Apps

Copilot for Microsoft Fabric

Copilot – Road Test

Prompt

Write a summary of less than 100 words and cover artificial intelligence, narrow artificial intelligence, general artificial intelligence and generative artificial intelligence.

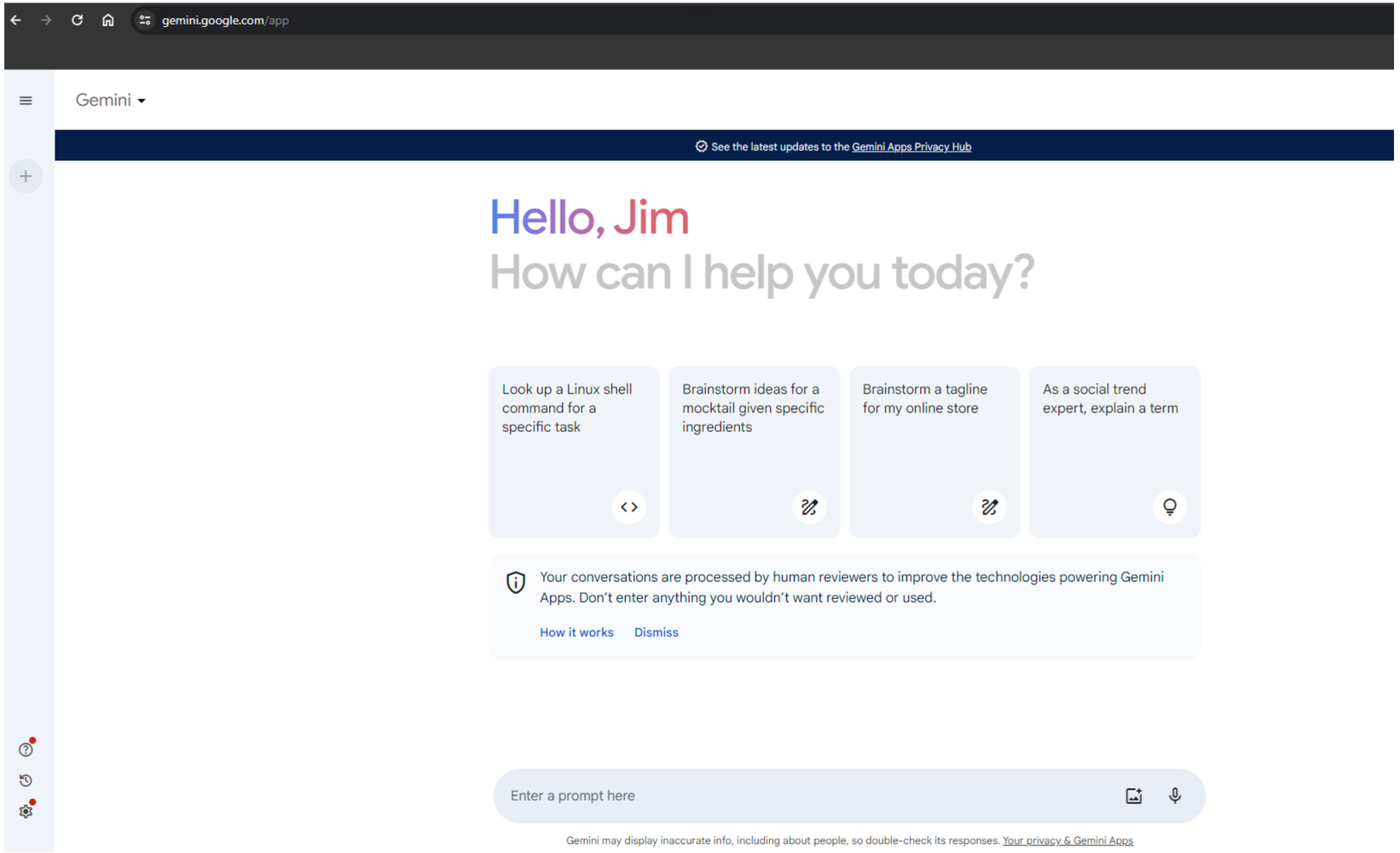
Result

- **Artificial Intelligence (AI)**: Refers to the field of creating intelligent systems that can perform tasks typically requiring human cognition. AI encompasses a wide range of techniques and applications.
- **Narrow Artificial Intelligence (Narrow AI)**: Also known as **Weak AI**, it focuses on specific tasks or domains. Narrow AI systems excel in well-defined areas, such as language translation, image recognition, or playing chess. However, they lack adaptability beyond their specialized functions.
- **General Artificial Intelligence (General AI)**: Often referred to as **Strong AI**, this is a theoretical concept where machines possess human-like cognitive abilities. General AI would understand context, learn from diverse experiences, and perform any intellectual task a human can. Achieving true General AI remains a challenging goal.
- **Generative Artificial Intelligence (Generative AI)**: This type of AI creates new content by learning patterns from existing data. It generates novel text, images, music, or other forms of creative output. Examples include language models like GPT and artistic style transfer algorithms.
- Remember, while Narrow AI dominates today's applications, the pursuit of General AI and the creative potential of Generative AI continue to shape the future of artificial intelligence.

Gemini

Gemini is an advanced AI model from Google, designed to understand and respond to information.

https://gemini.google.com/app



Gemini – Road Test

Prompt

Write a summary of less than 100 words and cover artificial intelligence, narrow artificial intelligence, general artificial intelligence and generative artificial intelligence.

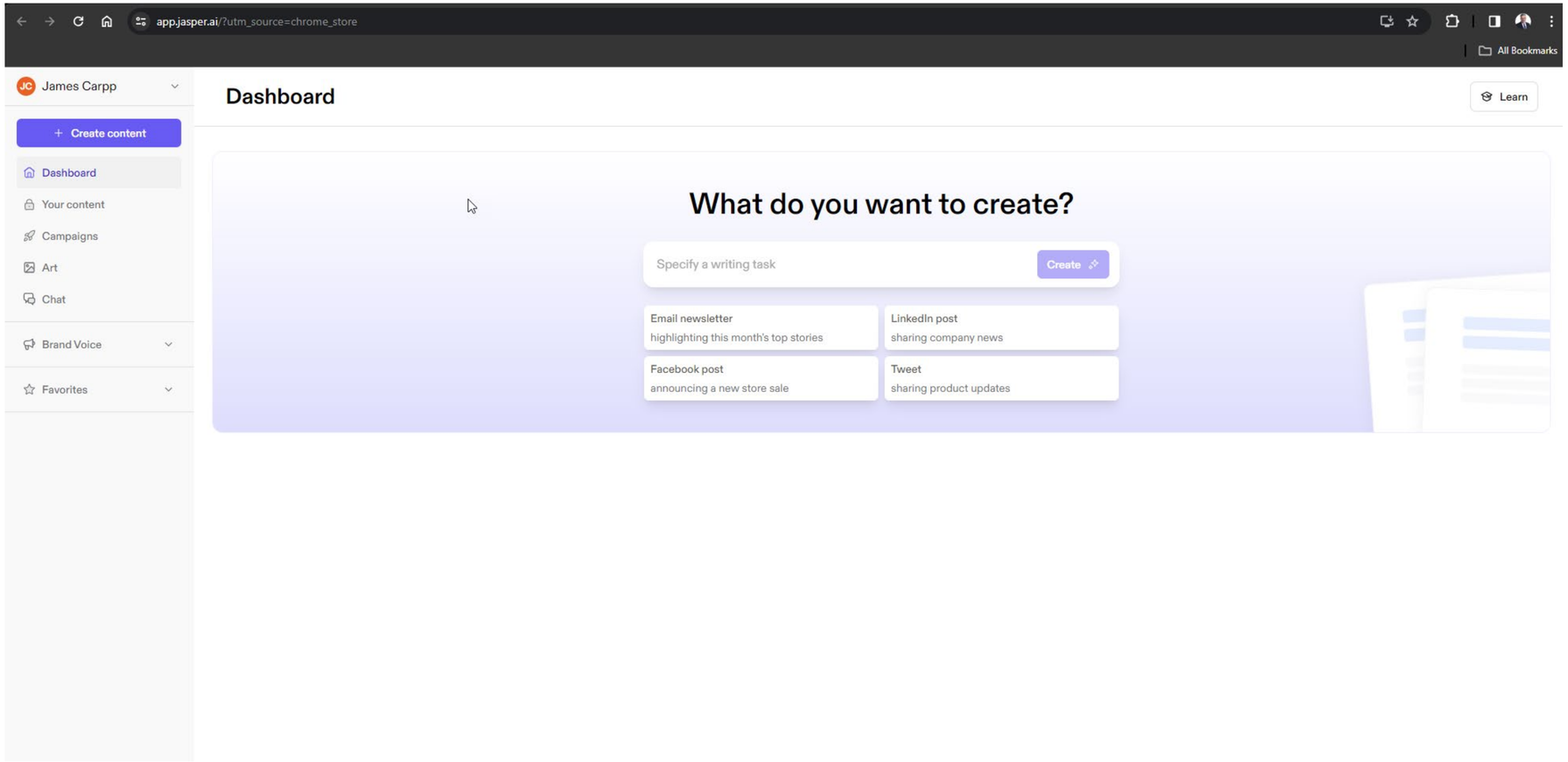
Result

Artificial intelligence (AI) is a broad field focused on creating intelligent machines. Narrow AI, the most common type, excels at specific tasks like playing chess or filtering spam. General AI, still theoretical, would mimic human intelligence and handle any intellectual task. Generative AI creates new data, like images or music, based on what it has learned.

Jasper

Jasper AI is an advanced artificial intelligence platform designed to assist in content creation, offering tools that can generate written content, such as blog posts, marketing materials, and emails, efficiently and creatively.

https://app.jasper.ai/



Jasper

Prompt

Write a summary of less than 100 words and cover artificial intelligence, narrow artificial intelligence, general artificial intelligence and generative artificial intelligence.

Result

Artificial intelligence (AI) refers to computer systems designed to replicate human intelligence and perform tasks such as recognizing speech, making decisions, and translating languages. Narrow AI, or weak AI, is programmed to perform a single task – such as facial recognition or internet searches – and cannot perform beyond its set parameters. General AI, or strong AI, possesses the ability to understand and learn any intellectual task that a human can, demonstrating a flexible form of intelligence. Generative AI is a type of AI that can generate new content, including text, images, and audio, resembling human-like creativity by learning from a database of existing information.

DALL-E

OpenAI
DALL·E

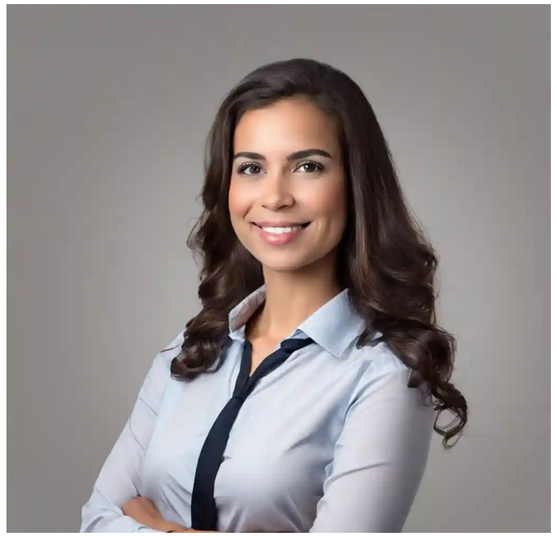
Prompt - Create a photorealistic photo of a professional woman that could be used in LinkedIn.

DALL·E is an advanced artificial intelligence program developed by OpenAI, capable of generating highly detailed and creative images from textual descriptions, offering innovative solutions for visual content creation.

MidJourney

MidJourney is an innovative artificial intelligence tool that specializes in generating detailed and creative images based on textual prompts, enabling users to visualize concepts, ideas, or products with unprecedented ease and flexibility.

Prompt - Create a photorealistic photo of a professional woman that could be used in LinkedIn.



AI in Simple Terms

General AI

This is like a
“Swiss Army Knife.”

Narrow AI

This is like
“Specialized Tools.”

Generative AI

This is like a
“Magic Wand.”

Large Language Models

Q&A

Slides to hold for now

Title

Add info Here

Fluff this up – Do your magic

What is Copilot for Microsoft Fabric?

Fluff this up – Do your magic

Claude

Claude AI is a state-of-the-art language model developed by Anthropic, designed to interact in conversational language, answer questions, generate text, and assist with a wide range of language-based tasks. It's built with a focus on safety and alignment to human values and intentions.

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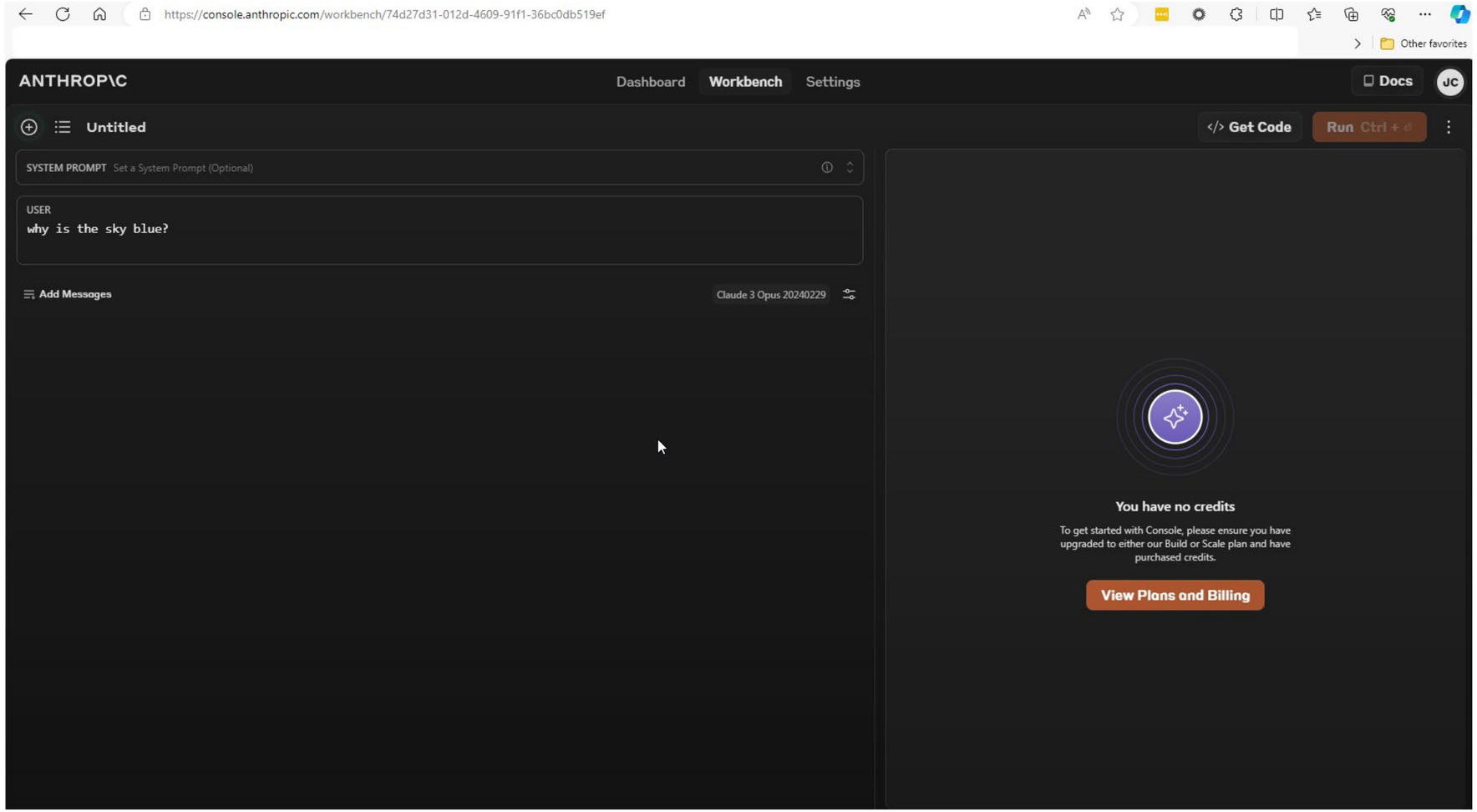
Fluff this up – Grab their Logos and place here

https://console.anthropic.com/workbench/74d27d31-012d-4609-91f1-36bc0db519ef



Jukebox

Chat GPT

Fluff this up – Grab their Logos and place here

The Data Mart Model

Specialized version (subset) of the Enterprise Data Warehouse model	Dimensional database modeling technology	Focused on a specific business function (sales, marketing, finance, etc.)
Bottom-up approach: data sources are integrated and transformed into a star schema to support the analytical needs of the data mart users	High performance, flexibility, and scalability	Introduces data redundancy, inconsistency, and complexity