

## **Data Pipeline**

### **Azure**

#### **Security**

- Firewall for network security, allow specific ip range
- Data masking

Synapse can choose which compute to use Automatic ML

- Many models to choose
- Pretrained model Log
- Audit logs, when users logged in to db Core data explorer
- contain compute cluster
- Provide engine, using kql as a query language Logs analytic
- Data explorer engine
- Used in many industries Synapse link
- link to db
- Hybrid Transactional Analytical Process HTAP
- Db able to serve analytic process also
- Automatically load data to another store

#### **Azure Preview**

- scan sql db to data catalog (report), overall landscape of data in the organization
- Use data map to do data discovery —> metadata

## **Data Scientist**

### **Azure Machine Learning**

#### **Key trends in business**

- Automation
- Collaboration: collaborative workspace for diff departments to work together
- Acceleration: ml ops to monitor and improve ml workload

3 main features: Notebook, Automated ML Ux, Designer Many computing power to choose from  
Can work with any kinds of data, structured or unstructured Can be used for the entire workflow of ml

#### **Customer promise**

- ML for all, beginner to professional
  - Notebook: code-first
  - Designer: drag and drop, no code
  - Automate ML: input data, define the task and constraints, and it will produce the model

#### **Manage ML asset**

- experiments tried
- models produced

### **Azure Databricks**

Data analytics platform powered by Apache Spark

Can parallel process and accelerate the job Can integrate with all related microsoft services

Can be called using RestAPI

Artifacts similar to Azure ML

Databricks Notebook

- Can change the output to any visual
- Support many languages in one notebook

### Azure Open Ai

Put the ability of decision making into machine

Generative ai which can generate creative ideas

OpenAI - non beneficial organization aims to create intelligence for humanity Microsoft funds

OpenAI

### Azure Cognitive Service

Provide pre train computer capability

- Question Answering Service: create qa chatbot with no code
- Text-to-speech: can custom pitch
- Video Indexer: extract actionable insights from video
- Form recognizer: extract key value pair from document

Free student resource

- Microsoft Learn