Azure AI + ML Services and Platform

Azure AI Infrastructure

- AI Compute
  - Data Science Virtual Machine (DSVM)
  - Containers
  - AKS
  - Spark
- AI Data
  - Azur Cosmos DB
  - Azure SQL Storage
  - Azure Data Lake
- AI ETL
  - Azure Data Factory
- AI Integration
  - Azure Logic App
  - Azure Function
- Vizulization
  - Power BI
- AI Analytics
  - Application Insights

Azure Machine Learning

- Tools, IDE and Utilities
  - Azure Notebook
  - Azure ML Studio
  - Azure ML Workbench
  - Visual Studio / Visual Studio Code
  - Pycharm
  - Jypyter Notebook
- ML Lifecycle Support
  - Azure ML Lyfecycle
    - ① Data Preparation
      - Data Labeling
      - Data Preparation
      - Data Set Creation
    - ② Build and Train Model
      - Auto ML
      - Notebooks
      - Compute Instance
      - Experiments
      - IDE Integration
      - Reinforcement Learning
    - ③ Model Validation and Deployment
      - Management Endpoint
      - CI & CD Pipeline
      - Model Images / Model Repository
    - ④ Monitor & Manage
      - Data Drift
      - Audit Trail
      - Error Analysis
- Machine learning operations (MLOps)
  - ML Lifecycle +
    - Accelerate the machine learning lifecycle
      - Reproduceable ML Model
      - Deploy Model at Scale
      - Automated CI & CD for Models
      - Manage, Monitor Multiple Projects at Scale
- Hybrid & Multicloud Integration
- Enterprise Grade Security

SDKs

- .NET - C# SDK
- Java SDK
- Python SDK
- GO SDK
- Node.js

Applied AI Services

Ready-to-deploy AI solutions.

- Form Recognizer — Document extraction service for Forms, Invoices etc based on OCR API Services
- Immersive Reader — Provides extensive abilities to read and comprehend text
- Metrics Advisor — A fully managed AI service that monitors metrics and diagnoses issues
- Video Analyzer — Powerful AI Service for building video analytics solutions
- Cognitive Serarch — Enterprise scale AI Enabled search for app development
- Azure Bot Services — Create bots and connect them across channels

Prebuilt and Trained AI models from Azure Cognitive Services, built-in business logic, programming, orchestration

Azure Cognitive Services

- Vision
  - Identify and analyze content within images and videos
  - Computer Vision API
    - Optical Character Recognition (OCR)
    - Image Understanding
      - Content Tag
      - Image Description
      - Face Detectation
      - Object Detectation
      - Image Categorization
    - Spatial Analysis
      - Zone and Line Placement
      - Camera Placement
  - Custom Vision
  - Face API
    - Face Verification
    - Face Detection
- Speech
  - Improved Application experiences by Enabling Speech Services
    - Speaker Recognition
    - Speech to Text
    - Speech Translation
    - Text to Speech
    - Intent Recognition
- Language
  - Understand conversations and unstructured text and analyze them
    - Translator
    - Conversational language understanding
    - Question answering
    - Linguistic Analysis
    - Web Language Model
    - Sentiment Analysis
    - Entity Recognition
- Decision
  - Make decisions faster
    - Anomaly Detecter
    - Content Moderator
    - Personalizer
- OpenAI
  - OpenAI Service
    - Dynamic language models

@abhijitjana