Azure AI fundamentals

ExamTopics sample questions

Microsoft guiding principles for responsible AI

- Accountability
  - Ensure that decisions made by AI can be overriden by humans
- Transparency
  - Model explain ability: with model explain ability, we enable you to understand feature importance as part of automated ML runs.
- Fairness
  - Avoid treating similarly situated groups of people differently, help mitigate bias
- Inclusiveness
  - Make AI accessible to people with disabilities
- Privacy and security
  - Provide consumers with info and control over the collection, use and storage of their data
- Reliability and safety
  - Ensure that AI systems operate as they were originally designed, respond to unanticipated conditions and resist harmful manipulation

Images

Computer vision

It can detect faces in an image, recognize handwritten text. It can't train a custom model.

Face feature

- Face detection: detects human faces in an image and returns the rectangle coordinates. Optionally, face detection can extract a series of face-related attributes, such as head pose, gender, age, emotion, facial hair, and glasses
- Face verification: check if two images are the same person
- Face identification: one-to-many matching. given an image, find a matching image from a database
- Find similar faces: matching between a target face and a set of candidate faces
- Face grouping: divides a set of unknown faces into several groups based on similarity

MAE, RMSE and R2 are metris for regression. confusion matrix is for classification

Text

Form recognizer

Extract text, key/value pairs, and tables from documents, both on-premises and in the cloud.

Text analytics

Key phrase extraction, name entity recognition, language identification.

Speech

It can convert speech to text, text to speech and translate speech, verify and recognize speakers, activate an IoT device with a custom keyword, add voice commands for hands-free scenarios

Bot

A bot needs a knowledge base (QnA Maker) and a Bot service. QnA Maker creates a conversational question-and-answer layer over your existing data. Use it to build a knowledge base by extracting questions and answers from your semi-structured content, including FAQs, manuals, and documents. In QnA Maker, you can

- Generate Q&As from an existing webpage
- Manually enter Q&As
- Import chit-chat content from a predefined data source

AML

The Designer feature lets you visually connect datasets and modules on an interactive canvas to create machine learning models. You can save a pipeline draft with the progress up until a point. Automated ML includes Designer

To perform real-time inferencing, you must deploy a pipeline as a real-time endpoint. Real-time endpoints must be deployed to an Azure Kubernetes Service cluster. For not real-time, a container instance is enough.