Microsoft Azure AI Fundamentals: AI-900

EXAM DESIGN

Audience Profile

Candidates for this exam should have foundational knowledge of machine learning (ML) and artificial intelligence (AI) concepts and related Microsoft Azure services.

This exam is an opportunity to demonstrate knowledge of common ML and AI workloads and how to implement them on Azure.

This exam is intended for candidates with both technical and non-technical backgrounds. Data science and software engineering experience are not required; however, some general programming knowledge or experience would be beneficial.

Azure AI Fundamentals can be used to prepare for other Azure role-based certifications like Azure Data Scientist Associate or Azure AI Engineer Associate, but it is not a prerequisite for any of them.

Objective Domains

SKILLS MEASURED

- NOTE: The bullets that appear below each of the skills measured are intended to illustrate how we are assessing that skill. This list is not definitive or exhaustive.
- NOTE: In most cases, exams do NOT cover preview features, and some features will only be added to an exam when they are GA (General Availability).

Describe Artificial Intelligence workloads and considerations (15-20%)

Identify features of common AI workloads

- Identify prediction/forecasting workloads
- Identify features of anomaly detection workloads
- Identify computer vision workloads
- Identify natural language processing or knowledge mining workloads
- Identify conversational AI workloads

Identify guiding principles for responsible AI

- Describe considerations for fairness in an AI solution
- Describe considerations for reliability and safety in an AI solution
- Describe considerations for privacy and security in an AI solution
- Describe considerations for inclusiveness in an AI solution
- Describe considerations for transparency in an AI solution
- Describe considerations for accountability in an AI solution

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Azure AI Fundamentals

Describe fundamental principles of machine learning on Azure (30-35%)

Identify common machine learning types

- Identify regression machine learning scenarios
- Identify classification machine learning scenarios
- Identify clustering machine learning scenarios

Describe core machine learning concepts

- Identify features and labels in a dataset for machine learning
- Describe how training and validation datasets are used in machine learning
- Describe how machine learning algorithms are used for model training
- Select and interpret model evaluation metrics for classification and regression

Identify core tasks in creating a machine learning solution

- Describe common features of data ingestion and preparation
- Describe common features of feature selection and engineering
- Describe common features of model training and evaluation
- Describe common features of model deployment and management

Describe capabilities of no-code machine learning with Azure Machine Learning:

- Automated Machine Learning UI
- Azure Machine Learning designer

Describe features of computer vision workloads on Azure (15-20%)

Identify common types of computer vision solution:

- Identify features of image classification solutions
- Identify features of object detection solutions
- Identify features of semantic segmentation solutions
- Identify features of optical character recognition solutions
- Identify features of facial detection, facial recognition, and facial analysis solutions

Identify Azure tools and services for computer vision tasks

- Identify capabilities of the Computer Vision service
- Identify capabilities of the Custom Vision service
- Identify capabilities of the Face service
- Identify capabilities of the Form Recognizer service

Describe features of Natural Language Processing (NLP) workloads on Azure (15-20%)

Identify features of common NLP Workload Scenarios

- Identify features and uses for key phrase extraction
- Identify features and uses for entity recognition
- Identify features and uses for sentiment analysis
- Identify features and uses for language modeling
- Identify features and uses for speech recognition and synthesis
- Identify features and uses for translation

Identify Azure tools and services for NLP workloads

- Identify capabilities of the Text Analytics service
- Identify capabilities of the Language Understanding Intelligence Service (LUIS)
- Identify capabilities of the Speech service
- Identify capabilities of the Translator Text service

Describe features of conversational AI workloads on Azure (15-20%)

Identify common use cases for conversational AI

- Identify features and uses for webchat bots
- Identify features and uses for telephone voice menus
- Identify features and uses for personal digital assistants
- Identify common characteristics of conversational AI solutions

Identify Azure services for conversational AI

- Identify capabilities of the QnA Maker service
- Identify capabilities of the Bot Framework