# AI-900: Microsoft Azure AI Fundamentals

This exam is an opportunity for you to demonstrate knowledge of machine learning and AI concepts and related Microsoft Azure services. As a candidate for this exam, you should have familiarity with Exam AI-900’s self-paced or instructor-led learning material.

This exam is intended for you if you have both technical and non-technical backgrounds. Data science and software engineering experience are not required. However, you would benefit from having awareness of:

* Basic cloud concepts
* Client-server applications

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

### Skills at a glance

* Describe Artificial Intelligence workloads and considerations (15–20%)
* Describe fundamental principles of machine learning on Azure (20–25%)
* Describe features of computer vision workloads on Azure (15–20%)
* Describe features of Natural Language Processing (NLP) workloads on Azure (15–20%)
* Describe features of generative AI workloads on Azure (15–20%)

### Describe Artificial Intelligence workloads and considerations (15–20%)

#### Identify features of common AI workloads

* Identify features of content moderation and personalization workloads
* Identify computer vision workloads
* Identify natural language processing workloads
* Identify knowledge mining workloads
* Identify document intelligence workloads
* Identify features of generative 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

### Describe fundamental principles of machine learning on Azure (20–25%)

#### Identify common machine learning techniques

* Identify regression machine learning scenarios
* Identify classification machine learning scenarios
* Identify clustering machine learning scenarios
* Identify features of deep learning techniques

#### 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 Azure Machine Learning capabilities

* Describe capabilities of automated machine learning
* Describe data and compute services for data science and machine learning
* Describe model management and deployment capabilities in Azure Machine Learning

### 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 optical character recognition solutions
* Identify features of facial detection and facial analysis solutions

#### Identify Azure tools and services for computer vision tasks

* Describe capabilities of the Azure AI Vision service
* Describe capabilities of the Azure AI Face detection 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

* Describe capabilities of the Azure AI Language service
* Describe capabilities of the Azure AI Speech service

### Describe features of generative AI workloads on Azure (15–20%)

#### Identify features of generative AI solutions

* Identify features of generative AI models
* Identify common scenarios for generative AI
* Identify responsible AI considerations for generative AI

#### Identify capabilities of Azure OpenAI Service

* Describe natural language generation capabilities of Azure OpenAI Service
* Describe code generation capabilities of Azure OpenAI Service
* Describe image generation capabilities of Azure OpenAI Service