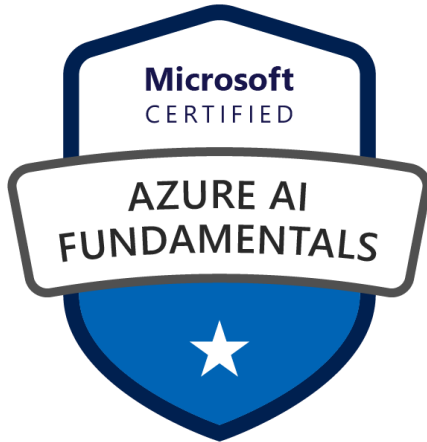




Microsoft Azure AI Fundamentals (AI-900) Crash Course

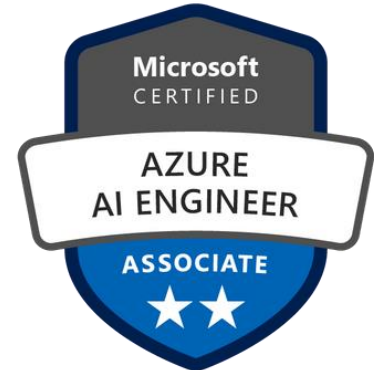


Reza Salehi

Cloud Consultant and Trainer



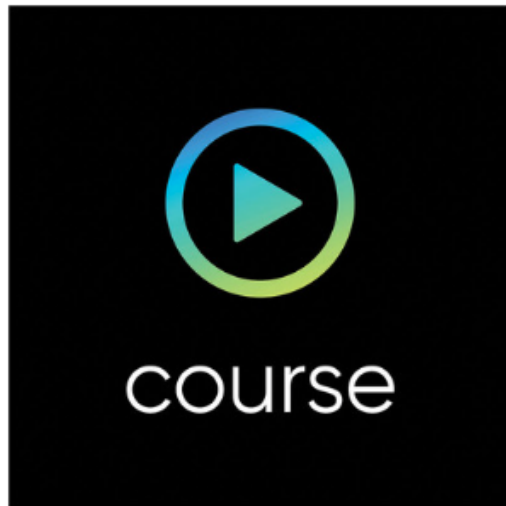
[@zaalion](https://twitter.com/zaalion)



Microsoft Azure Fundamentals (AZ-900) Certification Course

★★★★★ [1 review](#)

By [Reza Salehi](#)



[Continue](#)

TIME TO COMPLETE:
4h 37m

LEVEL:
Beginner

TOPICS:
[Microsoft Azure](#)

PUBLISHED BY:
[O'Reilly Media, Inc.](#)

PUBLICATION DATE:
October 2022

Preparing for certification?

[Take Practice Exam](#) >

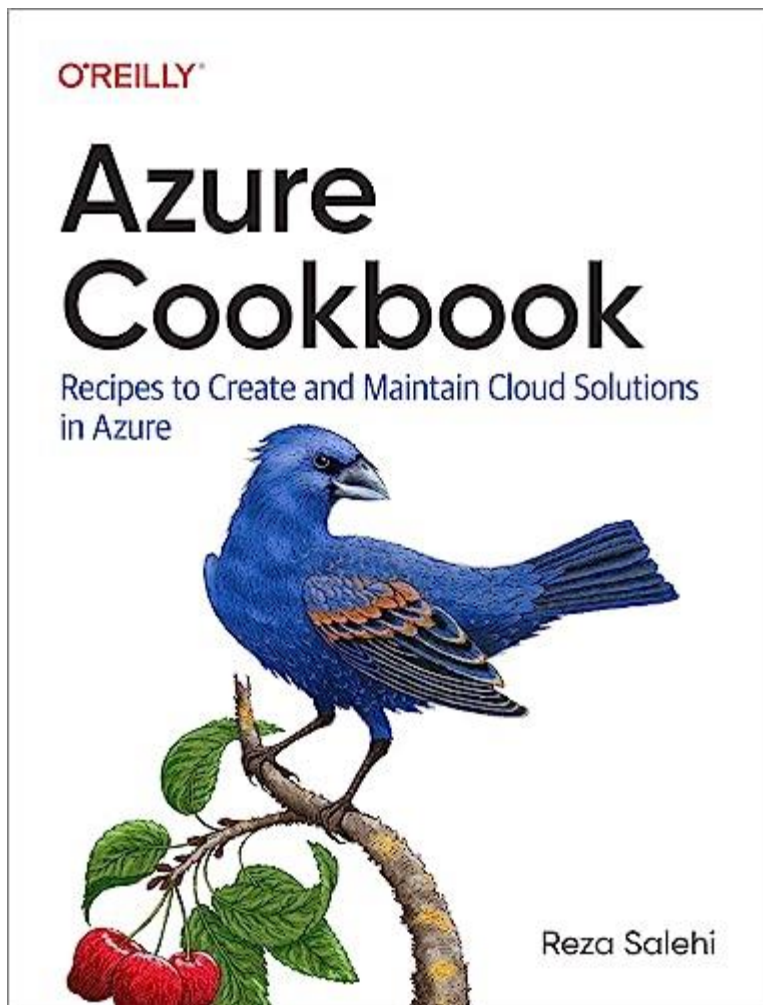
<https://learning.oreilly.com/videos/microsoft-azure-fundamentals/0636920797234/>

Azure Cookbook

<https://learning.oreilly.com/library/view/azure-cookbook/9781098135782/>

<https://www.amazon.ca/Azure-Cookbook-Recipes-Maintain-Solutions/dp/1098135792/>

<https://www.amazon.com/Azure-Cookbook-Recipes-Maintain-Solutions/dp/1098135792>





Course Overview



AI-900 Crash Course

- Describe Artificial Intelligence workloads and considerations (20–25%)
- Describe fundamental principles of machine learning on Azure (25–30%)
- Describe features of computer vision workloads on Azure (15–20%)
- Describe features of Natural Language Processing (NLP) workloads on Azure (25–30%)



Course Repository

<https://github.com/zaalion/ai-900>

Congratulations, you passed!

You've renewed your Microsoft Certified: Azure Security Engineer Associate and have extended it by **one year**.



[See your results](#)

main 1 branch 0 tags

Go to file

Add file

<> Code

rezasalehinewsig Slide deck for December 22

OReilly-AZ-500-Slide-Deck.pptx Slide deck for December 22

README.md Initial commit

README.md

oreilly-az-500

Local

Codespaces New

Clone

HTTPS SSH GitHub CLI

<https://github.com/zaalion/oreilly-az-500.git>

Use Git or checkout with SVN using the web URL.

Open with GitHub Desktop

Open with Visual Studio

Download ZIP



Microsoft

Learn

[Documentation](#)

[Training](#)

[Certifications](#)

[Q&A](#)

[Code Samples](#)

[Assessments](#)

[Shows](#)

[Events](#)



Search

[Sign in](#)

Certifications

[Browse Certifications](#)

[Certification Renewals](#)

[FAQ & Help](#)

[Learn](#) / [Certifications](#) / [Browse Certifications](#) /



EXAMS

Exam AI-900: Microsoft Azure AI Fundamentals

This exam is an opportunity to demonstrate knowledge of machine learning (ML) and artificial intelligence (AI) concepts and related Microsoft Azure services. Candidates for this exam should have familiarity with Exam AI-900's self-paced or instructor-led learning material.

This exam is intended for candidates with both technical and non-technical backgrounds. Data science and software engineering experience are not required; however, awareness of cloud basics and client-server applications 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.

You may be eligible for ACE college credit if you pass this certification exam. See [ACE college credit for certification exams](#) for details.

Important

The English language version of this exam was updated on May 4, 2023. Review the study guide linked in the “Tip” box for details about the latest changes. If a localized version of this exam is available, it will be updated approximately eight weeks after this date. While Microsoft makes every effort to update localized versions as noted, there may be times when the localized versions of this exam are not updated on this schedule.

Passing score: 700. [Learn more about exam scores.](#)

Tip

- Review the [AI-900 study guide](#) to help you prepare for the exam
- Demo the exam experience by visiting our [exam sandbox](#)

Part of the requirements for: [Microsoft Certified: Azure AI Fundamentals](#)

Related exams: none

[Go to Learn Profile](#)

Two ways to prepare

Self-paced

Instructor-led

Items in this collection

LEARNING PATH

Microsoft Azure AI Fundamentals: Get started with artificial intelligence

2 Modules

Beginner • AI Engineer • Bot Service

Start >



+ Save

LEARNING PATH

Microsoft Azure AI Fundamentals: Explore visual tools for machine learning

4 Modules

Beginner • AI Engineer • Azure



+ Save

LEARNING PATH



Describe Artificial Intelligence workloads and considerations (20– 25%)



Describe Artificial Intelligence workloads and considerations (20–25%)

- Identify features of common AI workloads
- Identify guiding principles for responsible AI

Identify Features of Common AI Workloads

- Identify features of anomaly detection workloads [see [1](#) [2](#) [3](#) [4](#) [5](#)]
- Identify computer vision workloads [see [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#)]
- Identify natural language processing workloads [see [1](#) [2](#) [3](#) [4](#) [5](#)]
- Identify knowledge mining workloads [see [1](#) [2](#) [3](#) [4](#) [5](#)]

Identify Guiding Principles for Responsible AI

- Describe considerations for fairness in an AI solution [see [1](#) [2](#) [3](#)]
- Describe considerations for reliability and safety in an AI solution [see [1](#)]
- Describe considerations for privacy and security in an AI solution [see [1](#)]
- Describe considerations for inclusiveness in an AI solution [see [1](#)]
- Describe considerations for transparency in an AI solution [see [1](#)]
- Describe considerations for accountability in an AI solution [see [1](#)]



Describe Fundamental Principles of Machine Learning on Azure (25–30%)



Describe Fundamental Principles of Machine Learning on Azure (25–30%)

- Identify common machine learning types
- Describe core machine learning concepts
- Describe capabilities of visual tools in Azure Machine Learning Studio

Identify Common Machine Learning Types

- Identify regression machine learning scenarios [see [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#)]
- Identify classification machine learning scenarios [see [1](#) [2](#)]
- Identify clustering machine learning scenarios [see [1](#) [2](#)]

Describe Core Machine Learning Concepts

- Identify features and labels in a dataset for machine learning [see 1]
- Describe how training and validation datasets are used in machine learning [see 1 2]

Describe Capabilities of Visual Tools in Azure Machine Learning Studio

- [Automated machine learning \[see 1 2\]](#)
- [Azure Machine Learning designer \[see 1 2\]](#)



Describe Features of Computer Vision Workloads on Azure (15–20%)



Describe Features of Computer Vision Workloads on Azure (15–20%)

- Identify common types of computer vision solution
- Identify Azure tools and services for computer vision tasks

Identify Common Types of Computer Vision Solution

- Identify features of image classification solutions [see [1](#) [2](#)]
- Identify features of object detection solutions [see [1](#) [2](#)]
- Identify features of optical character recognition solutions [see [1](#) [2](#)]
- Identify features of facial detection and facial analysis solutions [see [1](#) [2](#) [3](#)]

Identify Azure Tools and Services for Computer Vision Tasks

- Identify capabilities of the Computer Vision service [see [1](#) [2](#)]
- Identify capabilities of the Custom Vision service [see [1](#) [2](#) [3](#)]
- Identify capabilities of the Face service [see [1](#) [2](#)]
- Identify capabilities of the Form Recognizer service [see [1](#) [2](#)]



Describe Features of Natural Language Processing (NLP) Workloads on Azure (25–30%)



Describe Features of Natural Language Processing (NLP) Workloads on Azure (25–30%)

- Identify features of common NLP workload scenarios
- Identify Azure tools and services for NLP workloads
- Identify considerations for conversational AI solutions on Azure

Identify Features of Common NLP Workload Scenarios

- Identify features and uses for key phrase extraction [see [1](#) [2](#)]
- Identify features and uses for entity recognition [see [1](#)]
- Identify features and uses for sentiment analysis [see [1](#)]
- Identify features and uses for language modeling [see [1](#) [2](#)]
- Identify features and uses for speech recognition and synthesis [see [1](#) [2](#)]
- Identify features and uses for translation [see [1](#) [2](#)]

Identify Azure Tools and Services for NLP Workloads

- Identify capabilities of the Language service [see [1](#)]
- Identify capabilities of the Speech service [see [1](#)]
- Identify capabilities of the Translator service [see [1](#)]

Identify Considerations for Conversational AI Solutions on Azure

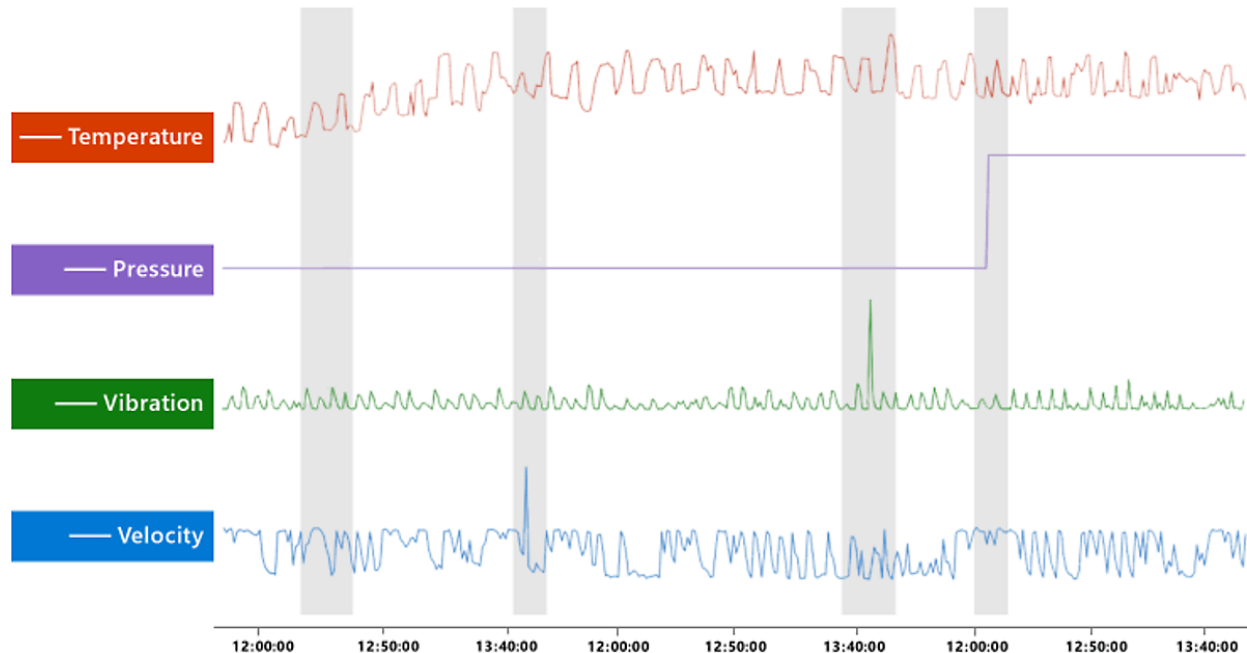
- Identify features and uses for bots [see [1](#) [2](#) [3](#)]
- Identify capabilities of the Power Virtual Agents and Azure Bot service [see [1](#) [2](#)]



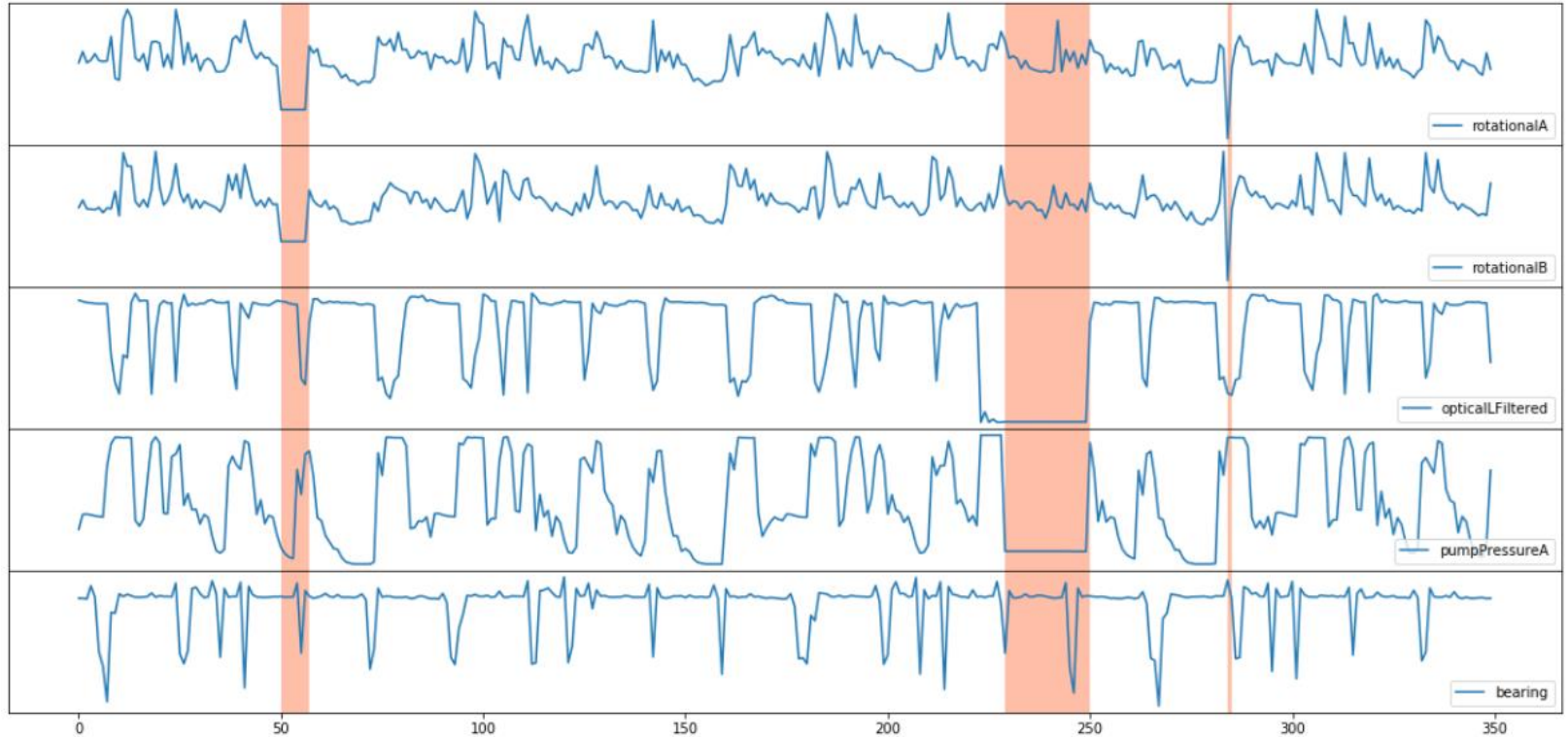
AI Workloads



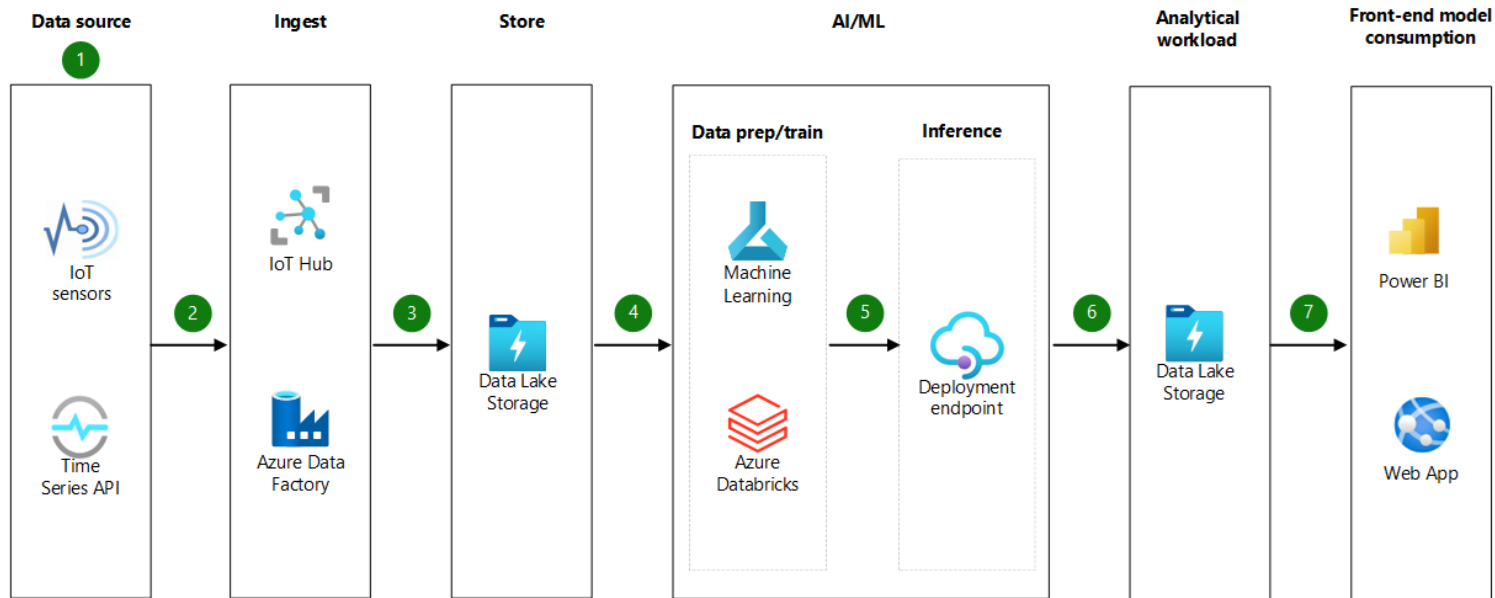
Anomaly Detection Workloads



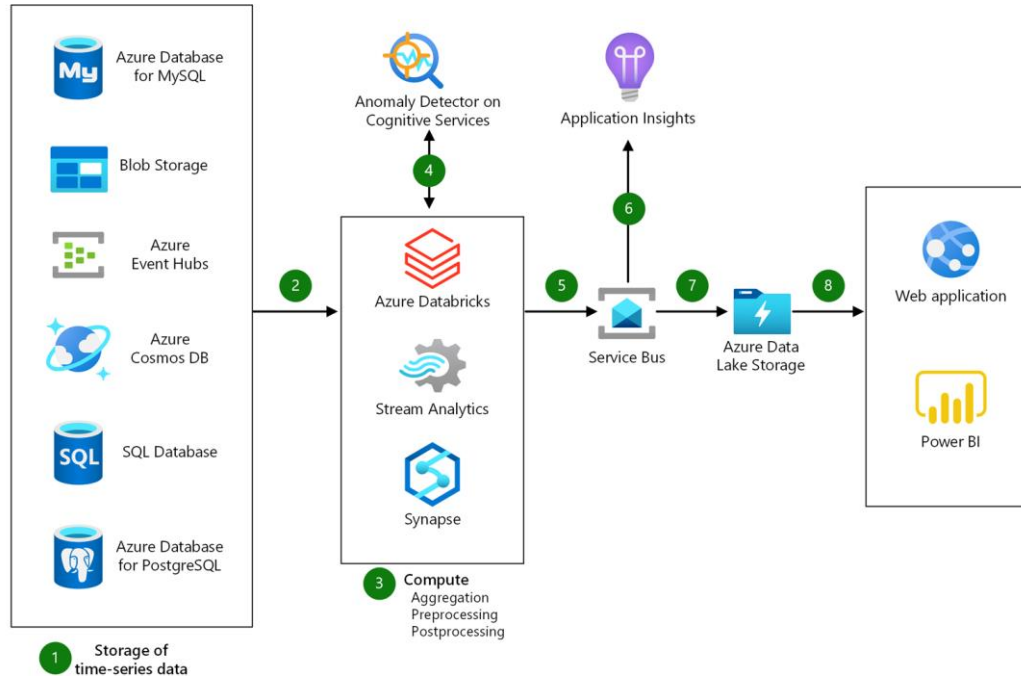
Anomaly Detection Workloads



Anomaly Detection Workloads



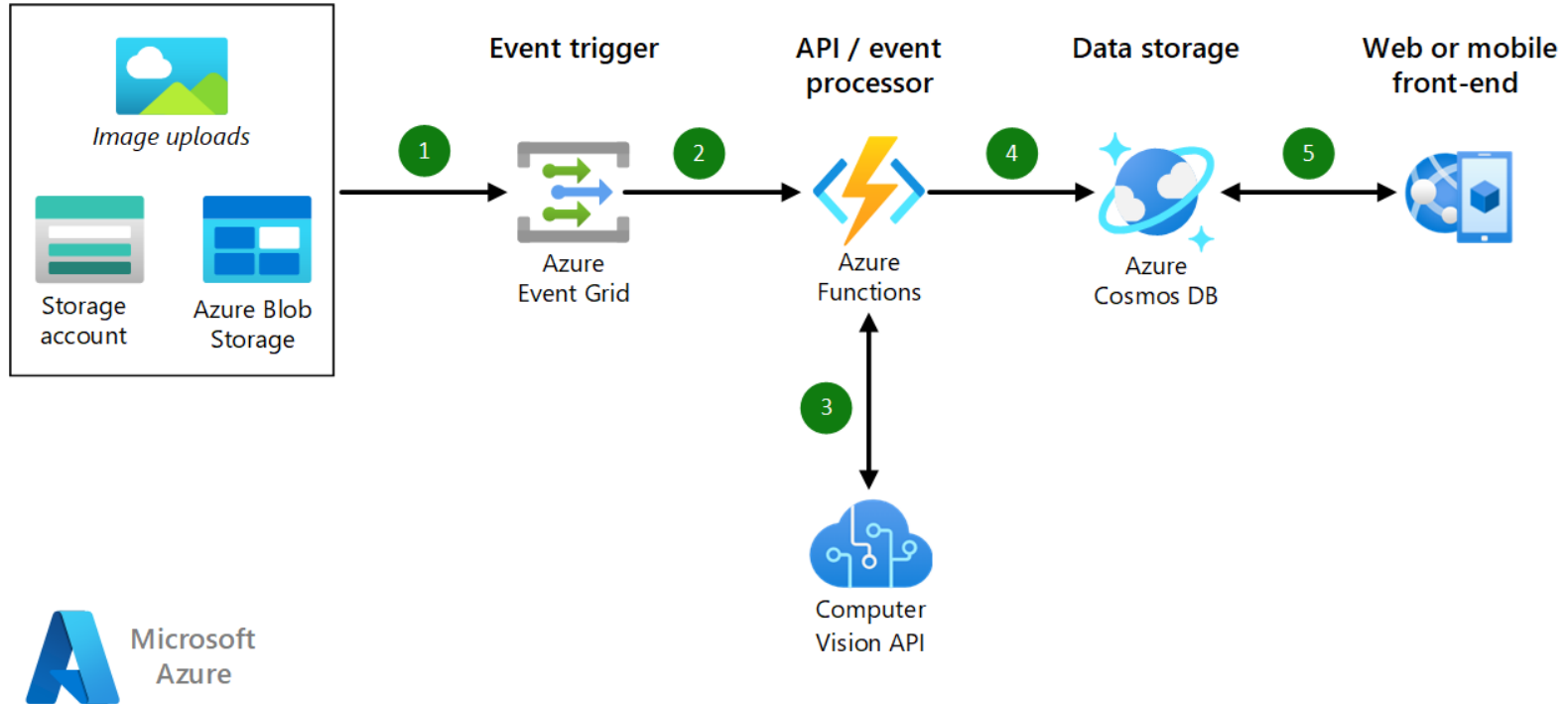
Anomaly Detection Workloads



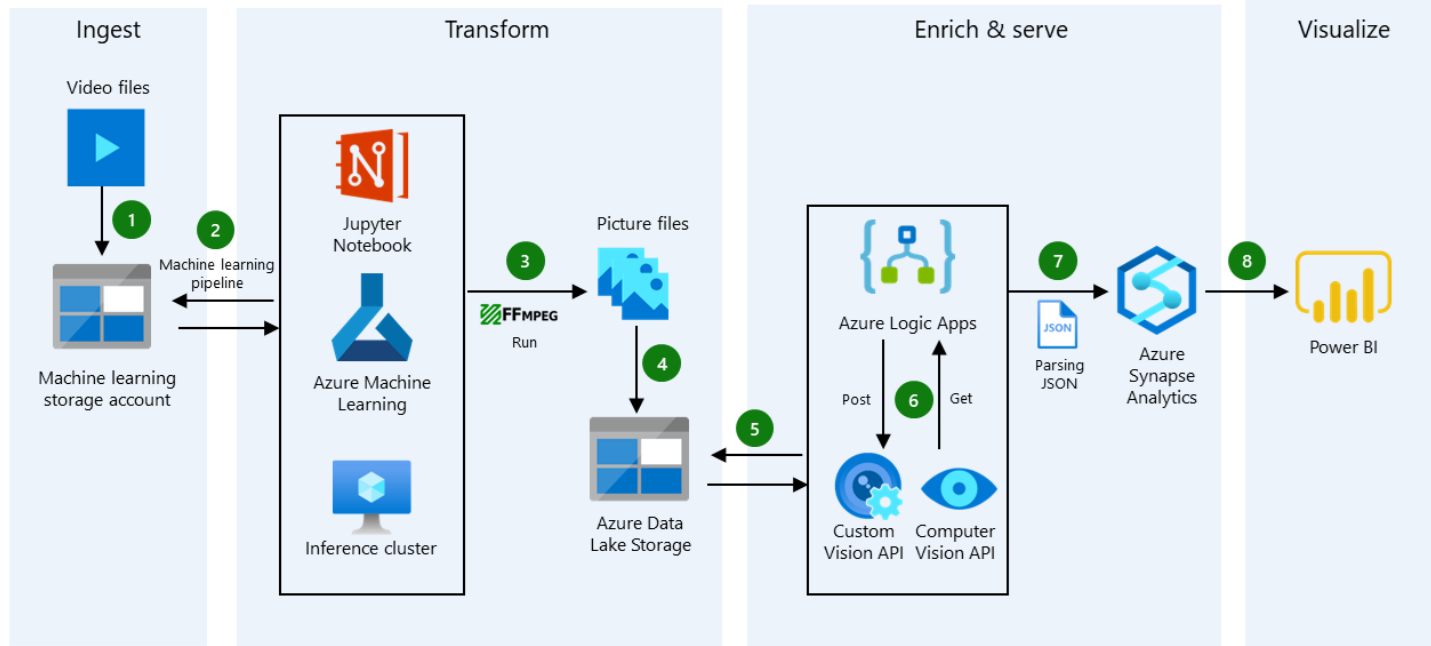
Computer Vision Workloads



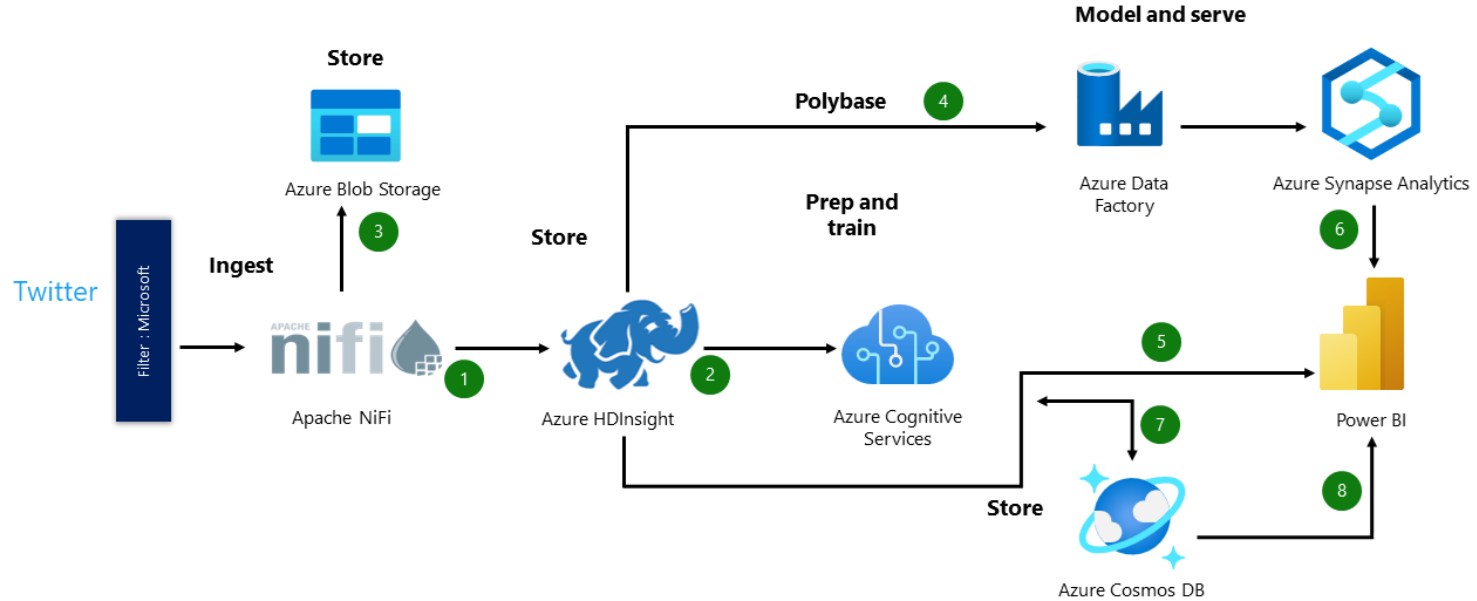
Computer Vision Workloads



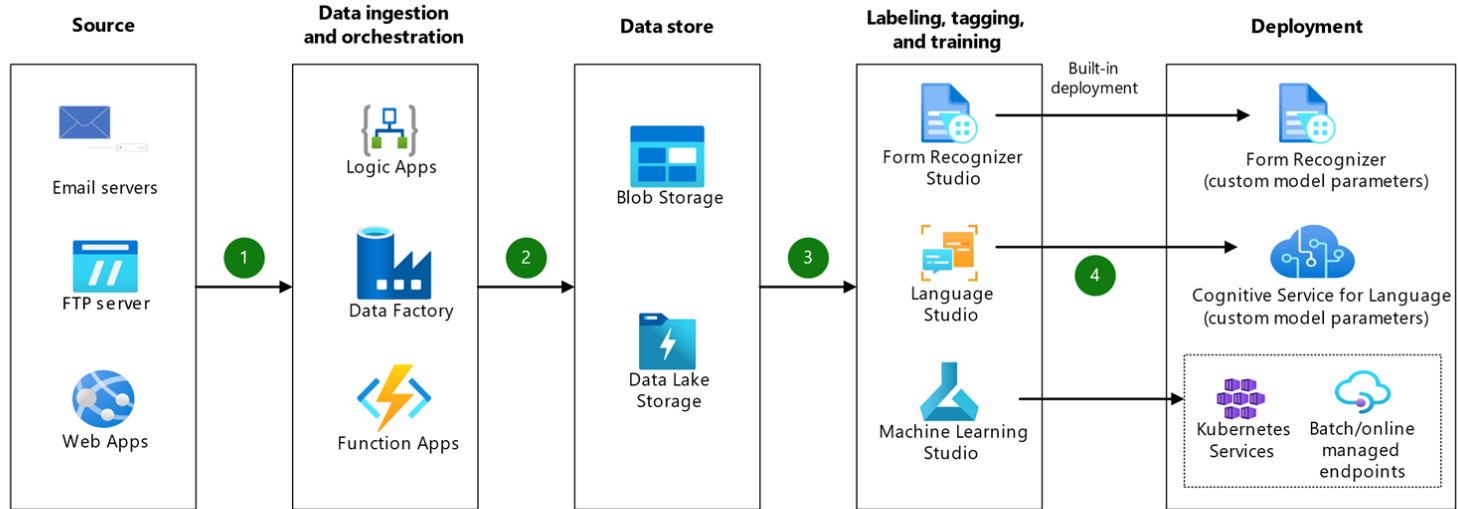
Computer Vision Workloads



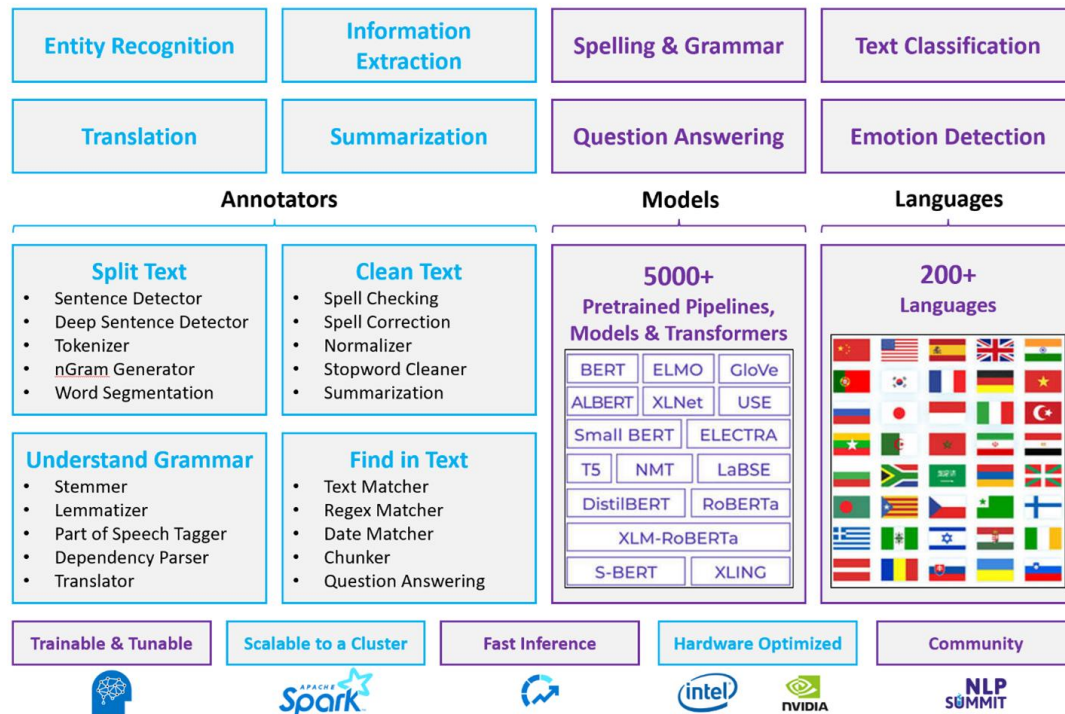
Computer Vision Workloads



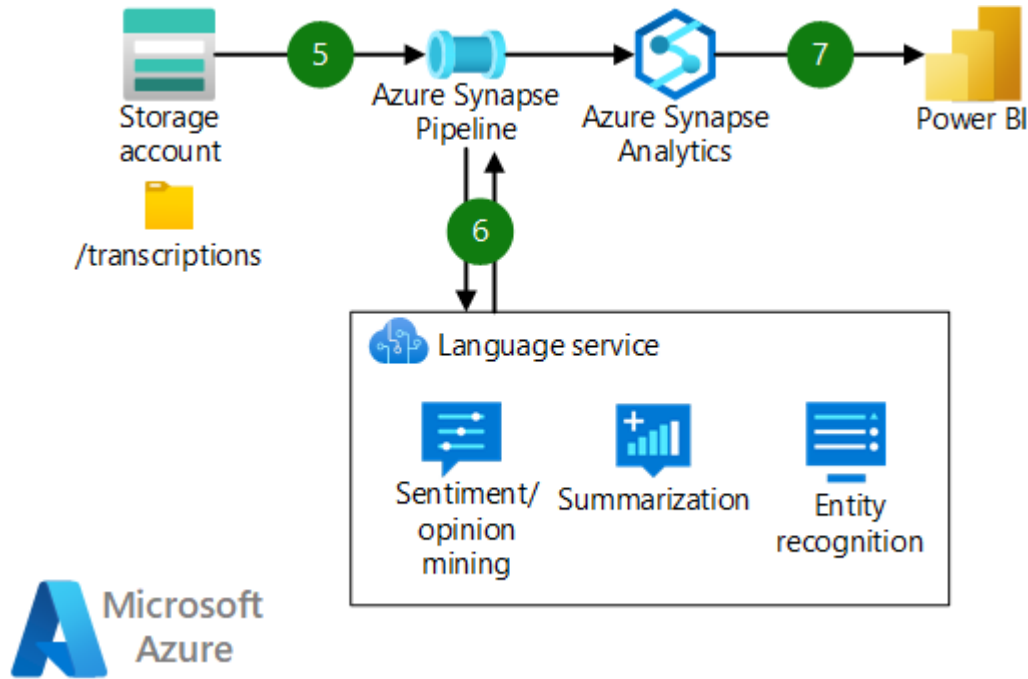
Computer Vision Workloads



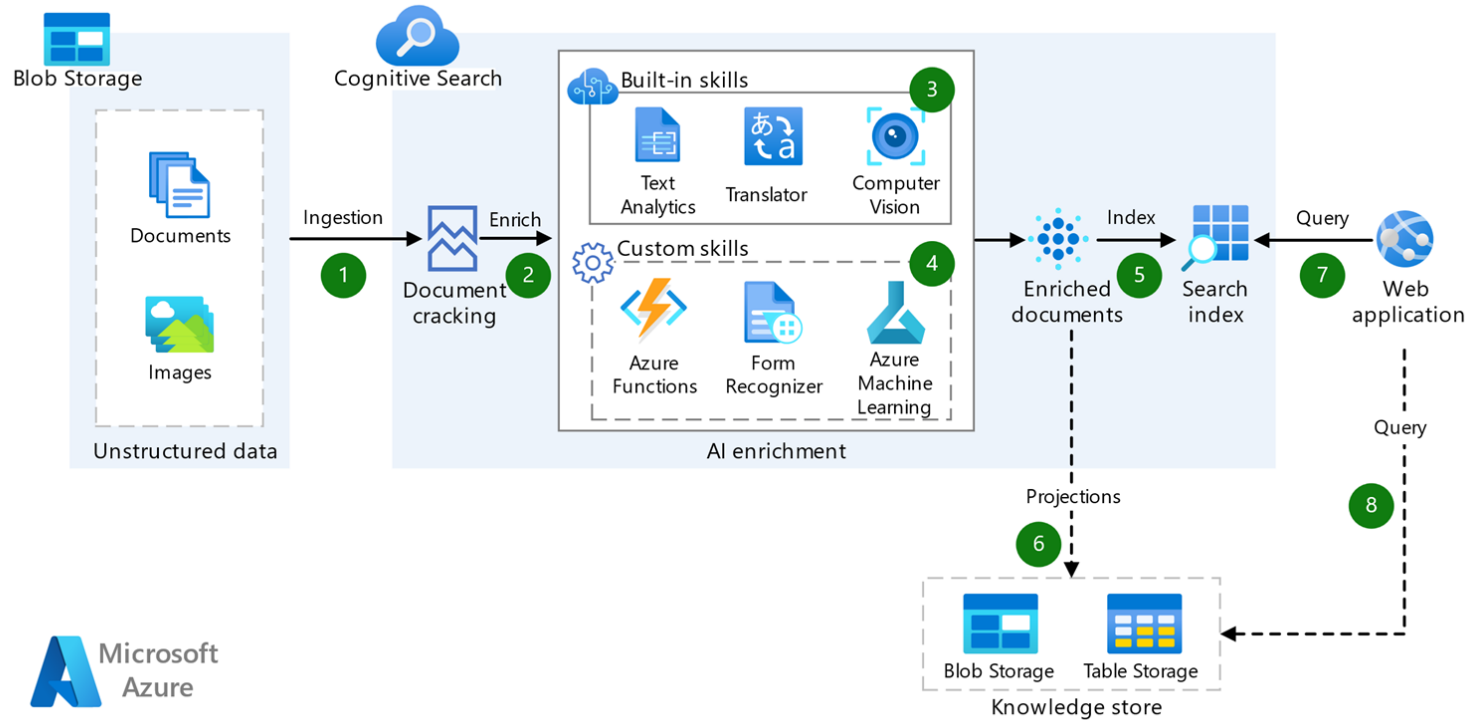
Natural Language Processing Workloads



Natural Language Processing Workloads



Natural Language Processing Workloads



Knowledge Mining Workloads

INGEST

101010
010101
101010

Structured data



databases



CSV

Unstructured data



PDF



video



image



audio

ENRICH

All models
(Cognitive Services)



Vision



Language



Speech



Decision



Search

EXPLORE

Enriched,
structured data



Search index accessible
through web, mobile or
enterprise apps



Business app like CRM,
ERP, RAP systems



Analytics like PowerBI

Knowledge Mining Workloads



[Azure Cognitive Search](#)

Identify and explore relevant content with the only cloud search service with built-in AI capabilities.



[Azure Cognitive Services](#)

Employ cognition capabilities to expand understanding across content types.



[Azure Machine Learning](#)

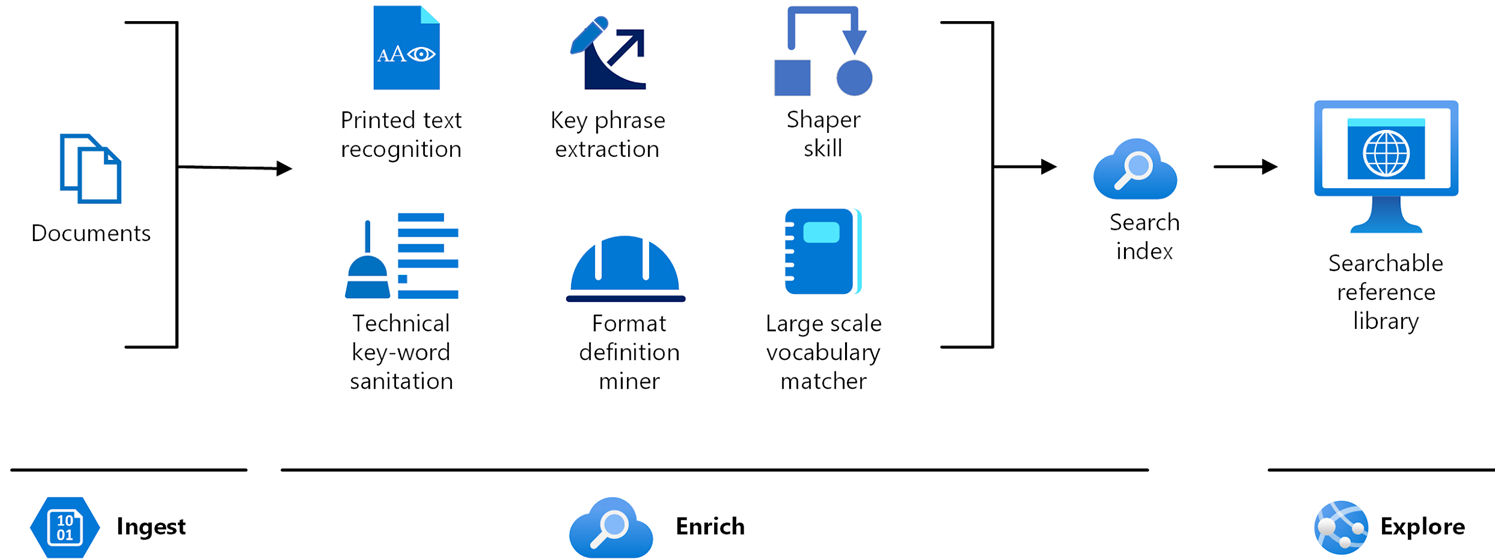
Apply machine learning models as custom skills for specific requirements like industry-specific regulations.



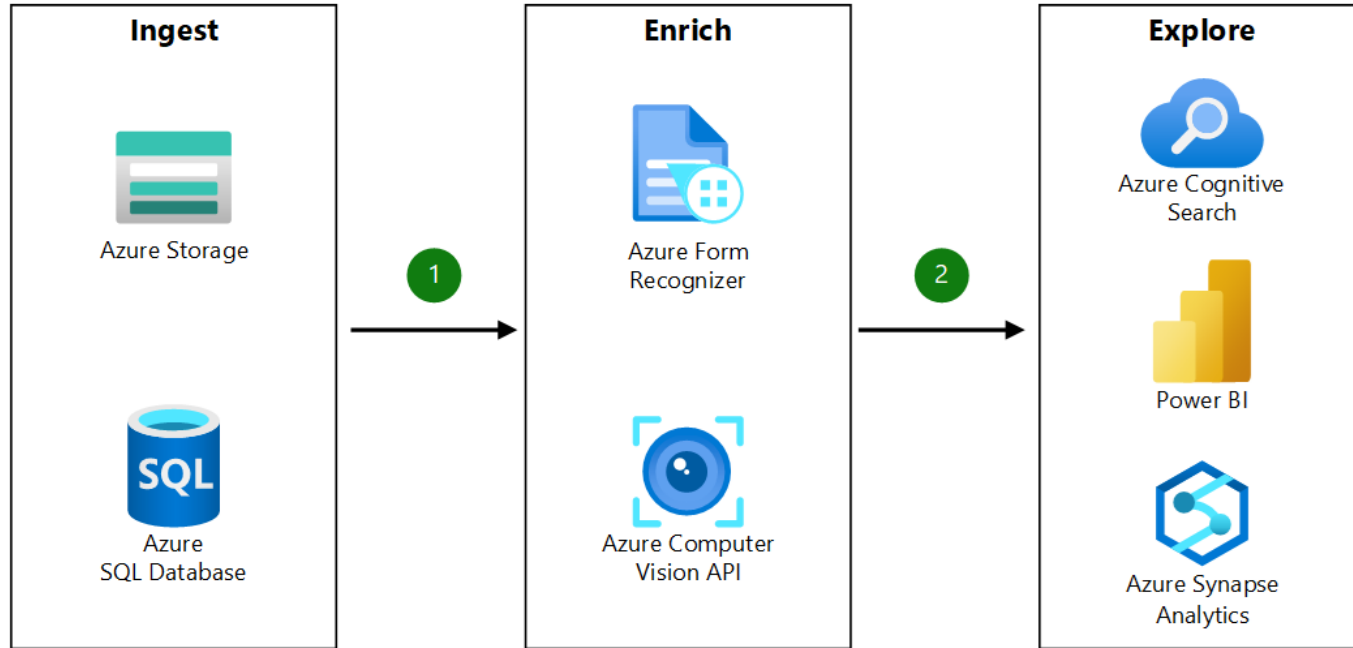
[Azure Bot Services](#)

Design interactive experiences that enable users to extract information from their data via bot interface.

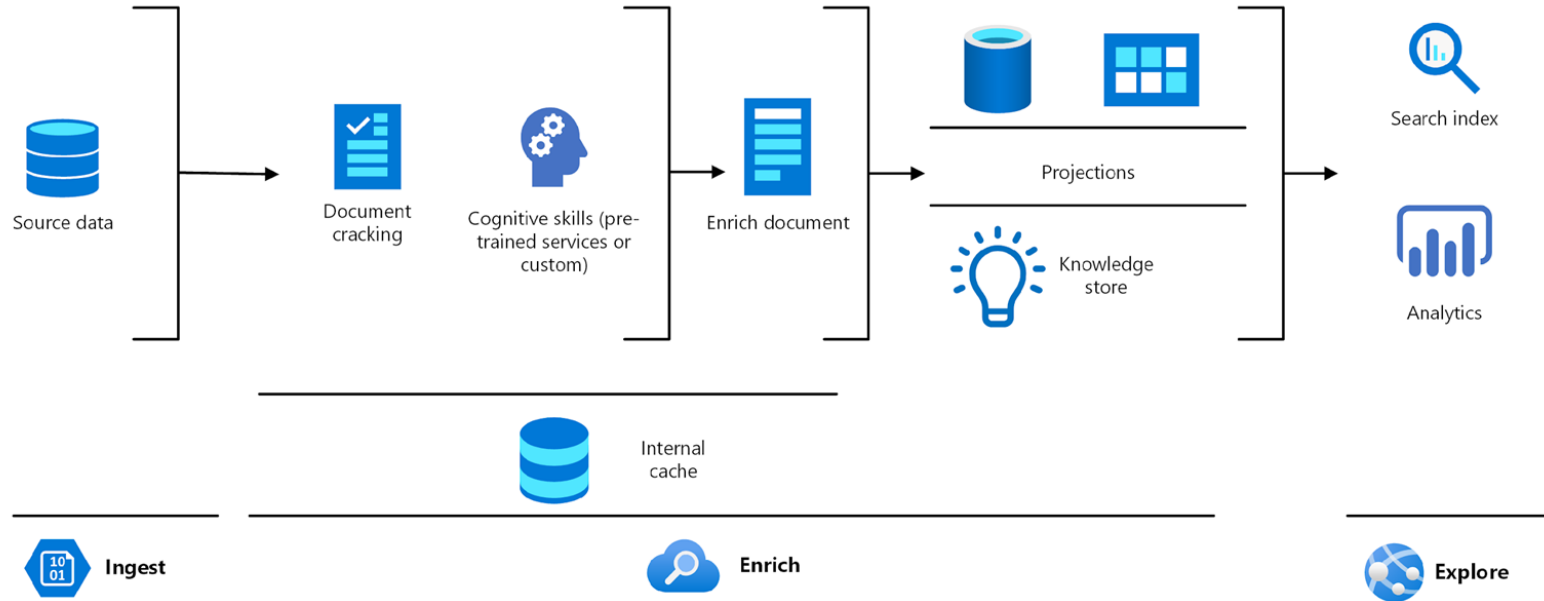
Knowledge Mining Workloads



Knowledge Mining Workloads

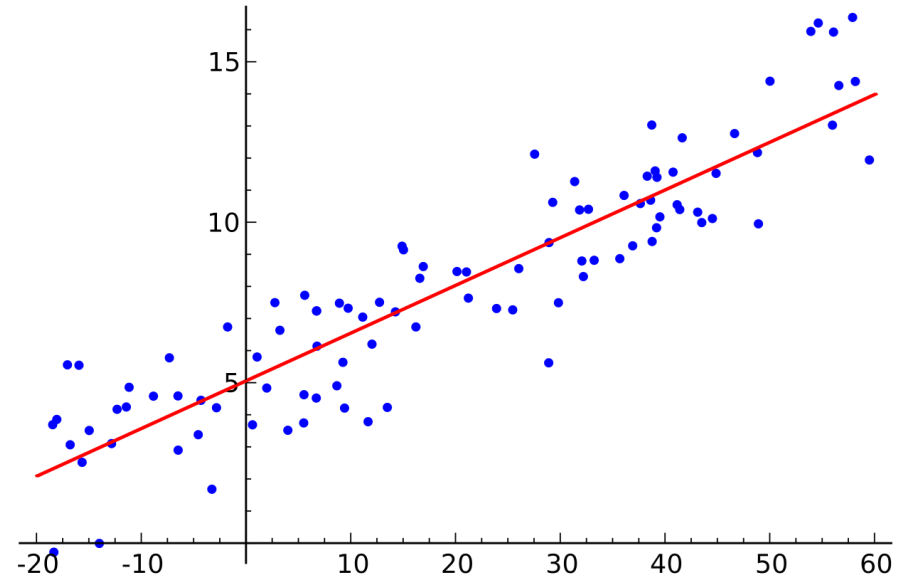


Knowledge Mining Workloads



Regression Machine Learning

- Estimate missing data
- Estimate future data (prediction)



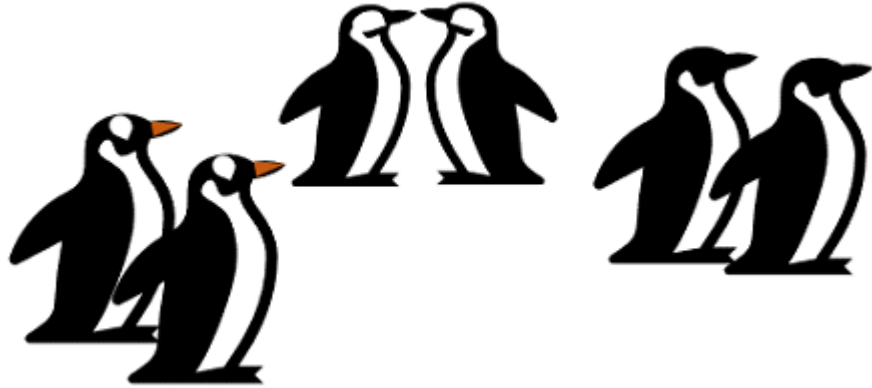
Classification Machine Learning

- Estimate missing data
- Estimate future data (prediction)



Clustering Machine Learning

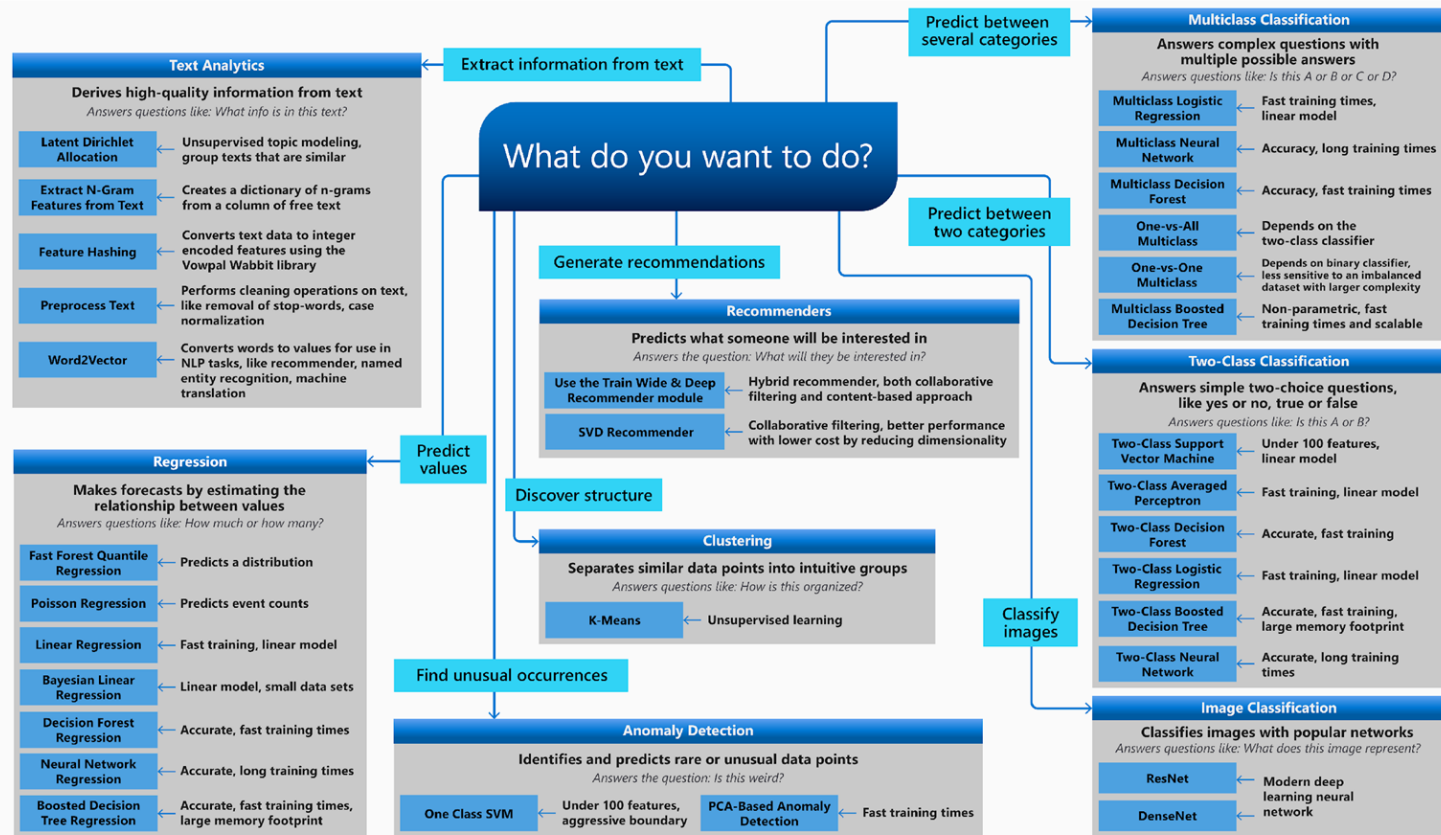
- Grouping unlabeled examples





Machine Learning Algorithm Cheat Sheet

This cheat sheet helps you choose the best machine learning algorithm for your predictive analytics solution. Your decision is driven by both the nature of your data and the goal you want to achieve with your data.



The Exam

AI-900 Exam FAQ

- Number of Questions between 40-60
- Duration: 120 minutes
- Questions
 - See the [exam sandbox](#)
- There is no hands-on labs
- Pass Score 700 (on a scale of 1-1000)

AI-900

- [Exam AI-900](#)
- [Skills measured](#)
- [Exam Sandbox](#)

Schedule exam

Exam AI-900: Microsoft Azure AI Fundamentals

United States

Languages: English, Japanese, Chinese (Simplified), Korean, German, French, Spanish, Portuguese (Brazil), Russian, Indonesian (Indonesia), Arabic (Saudi Arabia), Chinese (Traditional), Italian

Retirement date: none

Prove that you can describe the following: AI workloads and considerations; fundamental principles of machine learning on Azure; features of computer vision workloads on Azure; and features of Natural Language Processing (NLP) workloads on Azure.

\$99 USD*

Price based on the country or region in which the exam is proctored.

Schedule with Pearson VUE >

For students or instructors

Schedule with Certiport >

Take a free practice assessment

Test your skills with practice questions to help you prepare for the exam. [Learn more about practice assessments.](#)

⊕ Add

Select exam options

AZ-104: Microsoft Azure Administrator

Where do you want to take your exam?



At a test center



Online at my home or office

I have a Private Access Code

Where do you want to take your exam?



At a test center



Online at my home or office

I have a Private Access Code

Prepare for your online exam at your home or office



Your computer

Use a personal computer that has a reliable webcam and internet connection.

Run [system test](#).



Your testing space

The room should be a distraction-free, private place.

See [acceptable spaces](#) and view permitted [comfort aid list](#).



Your photo ID

We'll verify your government-issued identification (ID) when you arrive for your exam.

Review [admission & ID policies](#)



What to expect

Check in for your OnVUE exam 30 minutes before your appointment time.

Watch our [short video](#) to get familiar with the process.

Questions?

Check out the [OnVUE FAQs](#) and [minimum technical requirements](#).

Cart

[Review and confirm](#) contact information to avoid issues on test day.

Description	Details	Price	Actions
		165.00	Remove

Available Products

In addition to scheduling your exam, you might be interested in the following products.



Microsoft Official Practice Test powered by MeasureUp - 30 day online access
Get a discount on available Microsoft Official Practice Test for Microsoft certification exams (Fundamentals, Role-based, or Specialty) 30-day online access.

Special offer: Regularly priced at USD 99.00! [Click here for details](#)

[More Details](#)

USD 80.00

[Add to Order](#)

It's time to test your system

Order #: 0064-8802-7606

Your appointment is confirmed! An order confirmation containing important exam day information has been sent to: zaalion@gmail.com

What's next?

Run a system test

We need to verify that the computer and internet connection you plan to use on exam day meet the [minimum requirements](#) for online testing. It'll just take 5 minutes to run:



Equipment and internet connection checks



Exam simulation

Description	Details	Order Information	Price
			165.00

System Test

☐ I confirm that on my exam day I will be using this same testing space, computer, and internet connection.

Alert! Work computers generally have more restrictions that may prevent a successful test. Ensure you are not behind a corporate firewall, and shut down any **Virtual Private Networks (VPNs)** or **Virtual Machines**.

1. Copy Access Code

Click '**Copy Access Code**'.

This code will authorize you to perform a system test.

690-635-235

Copy Access Code

2. Download OnVUE

Click '**Download**'.

Download

3. Run OnVUE

Run the OnVUE application from your Downloads folder.

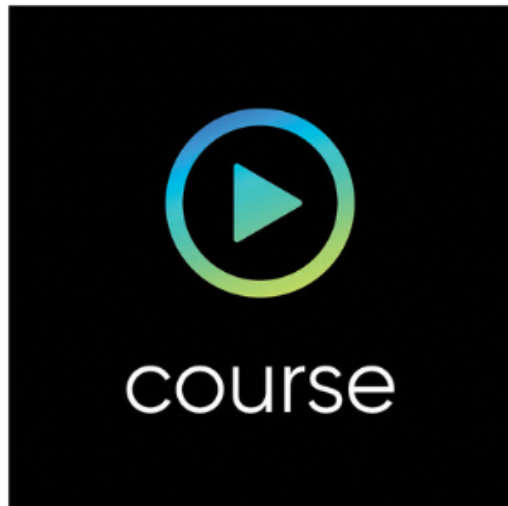
Course Repository

<https://github.com/zaalion/ai-900>

Microsoft Azure Fundamentals (AZ-900) Certification Course

★★★★★ [1 review](#)

By [Reza Salehi](#)



[Continue](#)

TIME TO COMPLETE:
4h 37m

LEVEL:
Beginner

TOPICS:
[Microsoft Azure](#)

PUBLISHED BY:
[O'Reilly Media, Inc.](#)

PUBLICATION DATE:
October 2022

Preparing for certification?

[Take Practice Exam](#) >

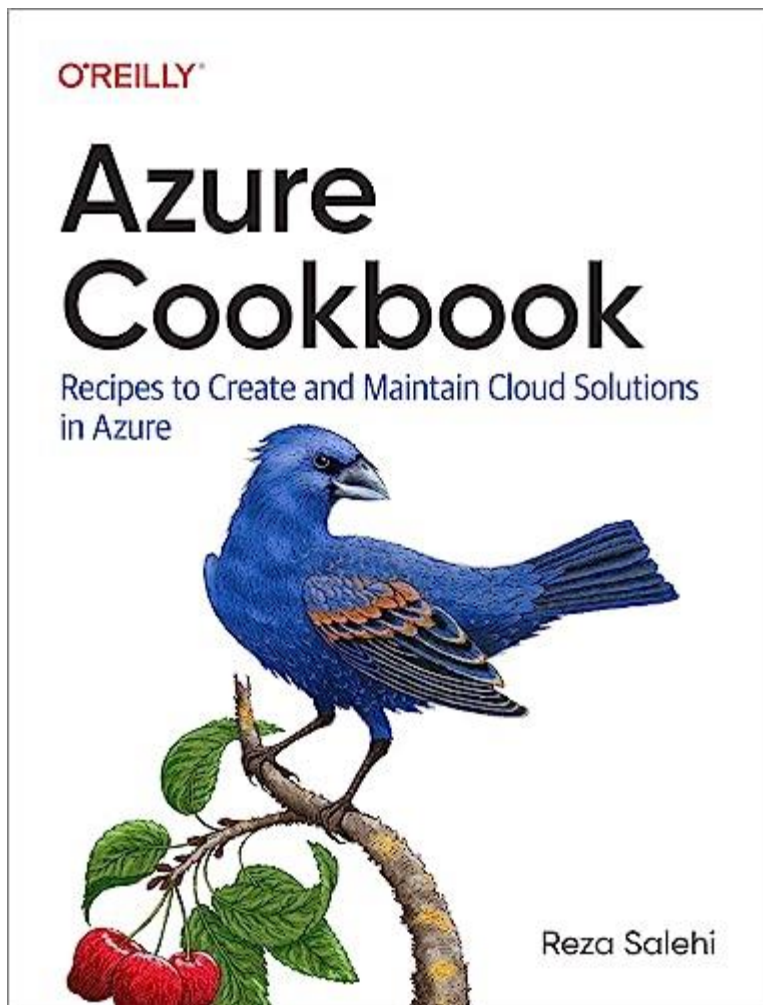
<https://learning.oreilly.com/videos/microsoft-azure-fundamentals/0636920797234/>

Azure Cookbook

<https://learning.oreilly.com/library/view/azure-cookbook/9781098135782/>

<https://www.amazon.ca/Azure-Cookbook-Recipes-Maintain-Solutions/dp/1098135792/>

<https://www.amazon.com/Azure-Cookbook-Recipes-Maintain-Solutions/dp/1098135792>



O'REILLY[®]

Thank you!

Reza Salehi

@zaalion

