

# COURSE OVERVIEW

Course Name:

COURSE DURATION: 4 Days

**Gauteng:**

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**Gauteng:**

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## INTRODUCTION

This course is designed to teach software developers how to create AI solutions that leverage Azure Cognitive Services, Azure Cognitive Search, and Microsoft Bot Framework to build computer vision, language analysis, knowledge mining, intelligent search, and conversational AI solutions on Azure.

## DELIVERY METHOD

Our courses are delivered via:

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## Intended Audience

Software engineers concerned with building, managing and deploying AI solutions that leverage Azure Cognitive Services, Azure Cognitive Search, and Microsoft Bot Framework. They are familiar with C# or Python and have knowledge on using REST-based APIs to build computer vision, language analysis, knowledge mining, intelligent search, and conversational AI solutions on Azure.

## Prerequisites

Before attending this course, students must have:

- Knowledge of Microsoft Azure and ability to navigate the Azure portal.
- Knowledge of either C# or Python.
- Familiarity with JSON and REST programming semantics.

## Course Overview

### Modul 1: Prepare to develop AI solutions on Azure

As an aspiring Azure AI Engineer, you should understand core concepts and principles of AI development, and the capabilities of Azure services used in AI solutions.

### Module 2: Create and consume Cognitive Services

Azure Cognitive Services enable developers to easily add AI capabilities into their applications. Learn how to create and consume these services.

### Module 3: Secure Cognitive Services

Securing Cognitive Services can help prevent data loss and privacy violations for user data that may be a part of the solution.

### Module 4: Monitor Cognitive Services

Azure Cognitive Services enable you to integrate artificial intelligence into your applications and services. It's important to be able to monitor Cognitive Services in order to track utilization, determine trends, and detect and troubleshoot issues.

### Module 5: Deploy cognitive services in containers

Learn about Container support in Cognitive Services allowing the use of APIs available in Azure and enable flexibility in where to deploy and host the services with Docker containers.

### Module 6: Extract insights from text with the Language service

The Language service enables you to create intelligent apps and services that extract semantic information from text.

### Module 7: Translate text with the Translator service

The Translator service enables you to create intelligent apps and services that can translate text between languages.

## **Module 8: Create speech-enabled apps with the Speech service**

The Speech service enables you to build speech-enabled applications. This module focuses on using the speech-to-text and text-to-speech APIs, which enable you to create apps that are capable of speech recognition and speech synthesis.

## **Module 9: Translate speech with the speech service**

Translation of speech builds on speech recognition by recognizing and transcribing spoken input in a specified language, and returning translations of the transcription in one or more other languages.

## **Module 10: Build a Language Understanding model**

The Language Understanding service enables you to train a language model that apps can use to extract meaning from natural language.

## **Module 11: Publish and use a Language Understanding app**

After creating a Language Understanding app, you can publish it and consume it from client applications.

## **Module 12: Build a question answering solution**

The question answering capability of the Language service makes it easy to build applications in which users ask questions using natural language and receive appropriate answers.

## **Module 13: Create a bot with the Bot Framework SDK**

Learn how to build a bot by using the Microsoft Bot Framework SDK.

## **Module 14: Create a Bot with the Bot Framework Composer**

User the Bot Framework Composer to quickly and easily build sophisticated conversational bots without writing code.

## **Module 15: Analyze images**

With the Computer Vision service, you can use pre-trained models to analyze images and extract insights and information from them.

## **Module 16: Analyze video**

Azure Video Analyzer for Media is a service to extract insights from video, including face identification, text recognition, object labels, scene segmentations, and more.

## **Module 17: Classify images**

Image classification is used to determine the main subject of an image. You can use the Custom Vision services to train a model that classifies images based on your own categorizations.

## **Module 18: Detect objects in images**

Object detection is used to locate and identify objects in images. You can use Custom Vision to train a model to detect specific classes of object in images.

## **Module 19: Detect, analyze, and recognize faces**

The ability for applications to detect human faces, analyze facial features and emotions, and identify individuals is a key artificial intelligence capability.

## **Module 20: Read Text in Images and Documents with the Computer Vision Service**

Azure's Computer Vision service uses algorithms to process images and return information. This module teaches you how to use the Read API for optical character recognition (OCR).

## **Module 21: Extract data from forms with Form Recognizer**

Form Recognizer uses machine learning technology to identify and extract key-value pairs and table data from form documents with accuracy, at scale. This module teaches you how to use the *Azure Form Recognizer* cognitive service.

## **Module 22: Create an Azure Cognitive Search solution**

Unlock the hidden insights in your data with Azure Cognitive Search.

## **Module 23: Create a custom skill for Azure Cognitive Search**

Use the power of artificial intelligence to enrich your data and find new insights.

## **Module 24: Create a knowledge store with Azure Cognitive Search**

Persist the output from an Azure Cognitive Search enrichment pipeline for independent analysis or downstream processing.