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Azure Data Scientist Learning Pathway

www.aka.ms/pathways

Getting started

Microsoft

Zero to hero in 4 weeks with Machine Learning

A guide to achieving Machine Learning expertise on Azure

The cloud is the destination for an increasing number of machine learning projects. It's an easy, cost-effective way to experiment and scale at any level of expertise or demand.

This learning journey will teach you how to create innovative solutions for complex problems with Machine Learning on Azure in 4 short weeks. With just an hour each day—think coffee-fueled morning ritual or mid-afternoon break—you'll be able to collaborate and build models faster with the latest machine learning tools and frameworks. Regardless of where you are in your journey, we can propel you to the next level and prepare you for the Azure Data Scientist Associate certification. Let's get started!

DOWNLOAD

Getting Started:

- Build your Tech resilience
- New to the Cloud or Azure? Start with Azure Fundamentals
- Build on this with Data Fundamentals and AI Fundamentals then consider:
- Foundations of data science for machine learning
- Understand data science for machine learning
- Create machine learning models
- Introduction to Python
- Take your first steps with Python
- Learn Python basics with Wonder Woman
- Azure Machine Learning helps customers stay ahead of challenges
- Get started with artificial intelligence on Azure
- Microsoft Data Science Azure Blog
- Explore machine learning through videos

Microsoft Beginner Tutorials

- 1: The 5 questions data science answers
- 2: Is your data ready for data science
- 3: Ask a question you can answer with data
- 4: Predict an answer with a simple model
- 5: Copy other people's work to do data science
- Create your first ML experiment
- Get Started with Auto ML
- Use Designer for drag-and-drop ML

Microsoft Advanced Tutorials

- Train and deploy ML models with Auto ML
- MLOps examples (GitHub)
- Designer for Prediction

Microsoft Shows

- Dev Intro to Data Science (28 video series)
- The AI Show
- Even More Python for Beginners - Data Tools

Additional Study

Azure Machine Learning workspaces

- What is an Azure Machine Learning workspace?
- Manage Azure Machine Learning workspaces
- Azure Machine Learning tools and interfaces
- What is Azure Machine Learning studio?
- Secure data access in Azure Machine Learning
- Connect to storage services on Azure
- Create Azure Machine Learning datasets
- Compute targets in Azure Machine Learning

Experiments/Models

- What is Azure Machine Learning designer?
- Deploy a machine learning model with the designer
- Train models with Azure Machine Learning
- Tracking capabilities in the ML SDK
- Monitor and view ML run logs and metrics
- Train and track ML models with MLflow and Azure Machine Learning
- Introduction to pipelines
- Pass data between pipeline steps
- Moving data into and between ML pipeline steps (Python)
- Reuse pipeline steps

Optimise & Manage

- What is Automated Machine Learning?
- Create, review, and deploy automated machine learning models with Azure Machine Learning
- Tuning parameters
- Overview: Sampling | Search Spaces | Termination
- Model interpretability
- Permutation Feature Importance
- Assess fairness in machine learning models
- Mitigate unfairness in machine learning models
- Monitor Azure Machine Learning
- Detect data drift

Deploy & Consume

- Compute targets for inference
- Enterprise security and governance for Azure Machine Learning
- Build an Azure Machine Learning pipeline for batch scoring
- Define an inference configuration
- Consume an Azure Machine Learning model deployed as a web service
- Deploy a machine learning model with the designer

Role Based Certification

Azure Data Scientist

Exam DP-100: Designing and Implementing a Data Science Solution on Azure

Skills Measured:

Design and prepare a machine learning solution (20–25%)
Explore data and train models (35–40%)
Prepare a model for deployment (20–25%)
Deploy and retrain a model (10–15%)

Self Guided Learning:

- Create machine learning models
- Explore visual tools for machine learning
- Build and operate machine learning solutions with Azure Machine Learning
- Build and operate machine learning solutions with Azure Databricks

Exam Study Guide | Course Page | Exam Page | Azure ML Documentation | Practice Test

30 Day Challenge – Azure Data Scientist

Design and implement a data science solution on Azure. In almost 27 hours, you'll learn how to build and operationalize machine learning models using Microsoft Azure in a secure, scalable, and responsible way.