General Learning Resources

Azure Resources:

- Microsoft Learn
- Azure Skilling on Pluralsight
- Azure Fridays
- Azure Architectures
- Azure Pricing Calculator

Azure Machine Learning specific:

- Azure ML Documentation
- Azure ML SDK for Python Documentation
- ML Practice Guides
- Machine Learning Example Notebooks
- Book on Azure Machine Learning
- Microsoft Learn Collection for Azure Data Scientist

Resources per module according to DP-100 course

Module 1:

- Compare the machine learning products and technologies from Microsoft
- Azure Machine Learning FAQ
- What is an Azure ML Workspace?
- How to select algorithms with AML
- Azure ML SDK for Python
- Azure ML SDK for R
- Azure ML CLI Extension
- Set up Azure ML Visual Studio Code extension

Module 2:

- What is Azure ML Designer
- Tutorial: Predict automobile price with Designer
- Example pipelines & datasets for Azure Machine Learning designer
- Algorithm & module reference for Azure Machine Learning designer
- Evaluate model module and information on metrics used

Module 3:

- Several ways to train your models with Azure ML
- Configure and submit training runs
- Pre-configured estimators
- Track experiment runs and deploy ML models with MLflow and Azure Machine Learning
- Registering a model in Azure ML

Module 4:

- Introduction to Core Azure Storage Services
- Secure data access in Azure Machine Learning
- Create and register datastores
- Version and track datasets in experiments
- Create datasets with Azure Open Datasets

Module 5:

- Understanding conda and pip
- What are Azure ML Environments
- Create and use virtual environments
- List of curated environments
- Compute targets in Azure ML
- Set up compute targets for training
- Manage compute with Python SDK
- Use secrets in training runs with Azure Key Vault

Module 6:

- What are Azure ML Pipelines?
- Pipelines in Designer

- How to schedule pipelines
- Best practices when using Azure ML Pipelines

Module 7:

- Deploy Models with Azure ML
- How to deploy non-Azure ML model
- Tutorial: Deploy an image classification model in ACI
- Troubleshoot ParallelRunStep
- Batch scoring of IoT devices example

Module 8:

- Tune Hyperparameters with Azure ML
- What is Automated ML?
- Prevent overfiting and imbalanced data with Automated ML
- Primary Metric Options
- Understand results and metrics
- Tutorial: Create a forecasting model using Automated ML
- Tutorial: Forecast bike sharing demand with Automated ML

Module 9:

- Model Interpretability in Azure ML
- When to use which Model Explainer
- Explain ML models and predictions
- ML Interpretability with Automated ML
- Sample Notebooks: Explain models with Azure ML Interpret SDK
- Book on Model Interpretability to understand statistics

Module 10:

- Monitor and collect data from Azure ML web service endpoints
- Log Query Overview
- Collect and evaluate data for model deployed on AKS
- How to monitor datasets
- Data drift detection with Azure ML (Channel 9 video)