

Machine Learning Engineer with Microsoft Azure Syllabus



Contact Info

While going through the program, if you have questions about anything, you can reach us at support@udacity.com. For help from Udacity Mentors and your peers visit the Udacity Classroom.

Nanodegree Program Info

Version: 1.0.0

Length of Program: 86 Days*

** This is a self-paced program and the length is an estimation of total hours the average student may take to complete all required coursework, including lecture and project time. Actual hours may vary.*

Part 1: Welcome to Machine Learning Engineer with Microsoft Azure

Welcome to Udacity! We're excited to share more about your nanodegree and start this journey with you! In this course, you will learn more about the pre-requisites, structure of the program, and getting started!

Part 2: Using Azure Machine Learning

Machine learning is a critical business operation for many organizations. Learn how to configure machine learning pipelines in Azure, identify use cases for Automated Machine Learning, and use the Azure ML SDK to design, create, and manage machine learning pipelines in Azure.

Project: Optimizing an ML Pipeline in Azure

In the project at the end of this course, you'll have the opportunity to create and optimize an ML pipeline. You'll do this using both HyperDrive and AutoML, so that you can compare the results.

Supporting Lessons

Lesson	Summary
Introduction to Azure ML	In this lesson, we'll look at an overview of the course, look ahead to your final project, and discuss some of the reasons why—and when—you would want to do Machine Learning in the cloud.
Workspaces and the AzureML Studio	In this lesson, we'll learn how workspaces and AzureML studio enable you to be more productive as a data scientist or ML engineer.
Datastores and Datasets	Datastores and Datasets are a critical component of cloud computing. We'll learn how to integrate third party datasets and open datasets into our ML pipeline to quickly develop working solutions.
Training Models in Azure ML	We'll learn how to manage pipelines and use hyperparameters in experiments, as well as how to automate changes that create huge value in terms of prediction accuracy.
The AzureML SDK	In this lesson, we'll cover how the Azure ML SDK allows us to programmatically create and manage pipelines. We'll see that this approach makes pipeline creation and management a reproducible process.
Automated ML and Hyperparameter Tuning	We'll discuss how we can use the Azure ML SDK to do automated ML and create models more quickly and accurately. We'll also have a look at how we can make we can make our models easier to interpret.

Part 3: Machine Learning Operations

This course covers a lot of the key concepts of operationalizing Machine Learning, from selecting the appropriate targets for deploying models, to enabling Application Insights, identifying problems in logs, and harnessing the power of Azure's Pipelines. All these concepts are part of core DevOps pillars that will allow you to demonstrate solid skills for shipping machine learning models into production.

Project: Project: Operationalizing Machine Learning

In this project, you will continue to work with the Bank Marketing dataset. You will use Azure to configure a cloud-based machine learning production model, deploy it, and consume it.

Supporting Lessons

Lesson	Summary
Introduction to Azure ML	This is a welcome lesson. In this lesson, you will get an overview of the course
Deploy a Model	In this lesson, you will learn about how to authorize operations for machine learning and deploy machine learning models to Azure.
Consume Endpoints	In this lesson, you will learn about how to consume deployed service and load-test the endpoint.
Pipeline Automation	In this lesson, you will learn how to create a batch inference pipeline, publish a pipeline and consume the pipeline endpoint.

Part 4: Capstone - Azure Machine Learning Engineer

This capstone project gives you the opportunity to use the Azure Machine learning knowledge you have obtained from this Nanodegree to solve the problem of your interest.

Project: Capstone Project - Azure Machine Learning Engineer

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Part 5: Career Services

The Careers team at Udacity is here to help you move forward in your career - whether it's finding a new job, exploring a new career path, or applying new skills to your current job.

Project: Improve Your LinkedIn Profile

Find your next job or connect with industry peers on LinkedIn. Ensure your profile attracts relevant leads that will grow your professional network.

Project: Optimize Your GitHub Profile

Other professionals are collaborating on GitHub and growing their network. Submit your profile to ensure your profile is on par with leaders in your field.



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