AZUR 0100: Microsoft Azure Data Scientist (DP-100)

EFFECTIVE DATE

September 2020

DEPARTMENT

Computers - City Centre

DESCRIPTION

In this instructor-led training, you will learn how to operate machine learning solutions at cloud scale using Azure Machine Learning. This course teaches you to leverage your existing knowledge of Python and machine learning to manage data ingestion and preparation, model training and deployment, and machine learning solution monitoring in Microsoft Azure. This course prepares you to write the Microsoft Certification Exam DP-100: Designing and Implementing a Data Science Solution on Azure This course is ideal for data scientists with existing knowledge of Python and machine learning frameworks like Scikit-Learn, PyTorch, and Tensorflow, who want to build and operate machine learning solutions in the cloud.

CREDITS

0.0

YEAR OF STUDY

Continuing Professional Development

PREREQUISITES

Highly recommended: Fundamental knowledge of Microsoft Azure Experience of writing Python code to work with data, using libraries such as Numpy, Pandas, and Matplotlib. Understanding of data science; including how to prepare data, and train machine learning models using common machine learning libraries such as Scikit-Learn, PyTorch, or Tensorflow. Optional: Microsoft Azure Fundamentals (AZ-900) course

COREQUISITES

None

COURSE LEARNING OUTCOMES

Upon successful completion of this course, students will be able to:

- Provision, and use tools and code to work with Azure Machine Learning workspace
- Use designer to train a machine learning model and deploy a pipeline as a service
- Run code-based experiments in an Azure Machine Learning workspace, and train and register machine

learning models

- Create and consume datastores and datasets
- Create and use environments and compute targets
- Create pipelines to automate machine learning workflows, and publish and run pipeline services
- Publish a model as a real-time inference service and as a batch inference service
- Optimize hyperparameters for model training and use automated machine learning to find the optimal model for your data
- Generate model explanations with automated machine learning and use explainers to interpret machine learning models
- Use Application Insights to monitor a published model, and monitor data drift

PRIOR LEARNING ASSESSMENT & RECOGNITION (PLAR)

None

HOURS

Lecture: 12
Lab: 12

INSTRUCTIONAL STRATEGIES

GRADING SYSTEM

Satisfactory/Unsatisfactory

PASSING GRADE

'S' based on 100% attendance

EVALUATION PLAN

None

COURSE TOPICS

- Azure Machine Learning and Tools
  Training and Publishing Models with Designer
  Introduction to Experiments
  Training and Registering Models
  Working with Datastores, Datasets, Environments, and Compute Targets
  Introduction to Pipelines
  Publishing and Running Pipelines
  Real-time and batch Inferencing
  Hyperparameter Tuning
  Automated Machine Learning
  Introduction to Model Interpretation
  Using Model Explainers

Monitoring Models with Application Insights
Monitoring Data Drift

LEARNING RESOURCES

None

Notes:

- Course contents and descriptions, offerings and schedules are subject to change without notice.
- Students are required to follow all College policies including ones that govern their educational experience at VCC. Policies are available on the VCC website at:

  https://www.vcc.ca/about/governance--policies/policies/ .
- To find out how this course transfers, visit the BC Transfer Guide at https://www.bctransferguide.ca.

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