Hewlett Packard Enterprise

Building Machine Learning Models Workshop H38HPS

HPE course number	H38HPS
Course length	2 days
Delivery mode	ILT/VILT
View schedule, local pricing, and register	**View now**
View related courses	**View now**

Why HPE Education Services?

- Comprehensive worldwide HPE technical, IT industry and personal development training
- Training and certification preparation for ITIL®, Security, VMware®, Linux, Microsoft and more
- Innovative training options that match individual learning styles
- Anytime, anywhere remote learning via HPE Digital Learner subscriptions
- Verifiable digital badges for proof of training, skill recognition and career development
- Simplified purchase options with HPE Training Credits

This deep-dive course gives you the necessary hands-on experience to design and evaluate machine learning models. We start by managing datasets and applying data engineering best practices to transform the data into a learnable state. Then, we build intelligent models on the top of these datasets and validate them against our business goals. The hands-on labs enable you to manage the end-to-end lifecycle of a machine learning (ML) project.

Audience

This course is ideal for software engineers, IT professionals, data engineers, database professionals, developers and testers, solution architects, AI and automation enthusiasts, statisticians and other professionals looking to build machine learning capabilities.

Prerequisites

Basic understanding of any programming or scripting language

Course objectives

At the end of this training, you will be able to:

- Understand and apply various ML algorithms
- Apply techniques to build intelligent systems
- Gain knowledge of supervised and unsupervised learning,
- Learn how to evaluate and improve the performance of models
- Apply exploratory data analysis (EDA) and feature engineering techniques

Detailed course outline

Module 1	A Gentle Introduction to Machine Learning	• The data science ecosystem • Types of data analytics • Difference between artificial intelligence (AI) and machine learning (ML) • Machine learning types • ML toolkit
Module 2	The Machine Learning Pipeline	• The stages of machine learning • Data cleaning strategies • Qualities of good data • Statistics for ML
Module 3	Building a Machine Learning Model	• Classification • Regression • Clustering
Module 4	Exploratory Data Analysis (EDA)	• Why do we need EDA? • Methodology • EDA best practices
Module 5	Feature Selection and Feature Engineering	• Definitions • Permutation-based feature selection • Principal component analysis (PCA) and linear discriminant analysis (LDA)
Module 6	Normalization Methodologies	• Linear scaling • Clipping • Log scaling • Z-score
Module 7	Metrics to Evaluate ML Models	• Regression metrics • Classification metrics • Ranking
Module 8	Types of ML Algorithms	• Linear and logistic • Decision tress and random forest • Support vector machines • K-means clustering • Probabilistic AI • Time-series analysis
Module 9	Optimizing ML Models	• The need for optimization • Bias and variance trade-off • Overfitting and underfitting • Hyperparameter optimization • L1 and L2 regularization • Understanding drift

Learn more at
hpe.com/ww/learnbigdata

Follow us:

H38HPS A.00, February 2023