

Machine Learning With



Python

A Practical Workshop



November 18, 2020



10:00 am - 3:00 pm (UAE)



9:00 am - 2:00 pm (KSA)

Live

Instructor-Led

Machine Learning with Python: A Practical Workshop



About SIMFOTIX:

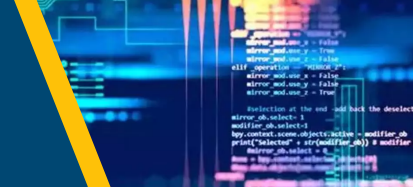
SIMFOTIX is a trusted name in the executive education industry that offers cutting-edge corporate training programs. SIMFOTIX focuses on creating value for both learners and businesses through its varied program offerings. We, at Simfotix, hold unique expertise in developing our programs based on the design-learning concept that focuses on the key challenges of a learner and organization. Engagement, relevance, and effectiveness are the hallmarks of our learning solutions. So far, SIMFOTIX training programs are attended by over 5000 participants from over 1000 organizations operating MENAT region. Our clients regard their training experience with us inspiring and transformative.

On the e-learning front as well, SIMFOTIX offers courses that result in serious learning but in fun way, we adopt efficient gamification approach that is aligned with clear learning goals that L&D teams want to see as the achieved objectives. We also understand the ever-shifting corporate world challenges and even in online programs, we carry our legacy of quality, relevance, and impact that's why our programs are conducted by learned faculty comprised of global thought-leaders and top industry practitioners.

We also provide bespoke training solutions that are tailored and delivered in a way that it surpasses your expectations.

01	02	03	04
			
SOFT SKILLS COURSES	IT RELATED COURSES	BANKING & FINANCE	GAMIFICATION COURSES

Machine Learning with Python: A Practical Workshop



Course Overview:

Machine Learning can be an incredibly beneficial tool to uncover hidden insights and predict future trends. This Machine Learning with Python course will give you all the tools you need to get started with machine learning. This Machine Learning with Python course dives into the basics of machine learning using Python, an approachable and well-known programming language. This hands-on workshop will take the audience from the basic steps of machine learning that is linear regression and logistic regression to more complex models such as decision trees and neural networks.

During the workshop, we will learn how to make supervised machine learning (classification and regression), when to use classification and when to use regression models and when to use classification models, all with practical and real datasets. Followed by unsupervised techniques such as hierarchical clustering and advanced AI neural network models.

Who Should Attend:

This course is for anyone:

- Willing to learn machine learning algorithm with Python.
- Who has a deep interest in the practical application of machine learning to real world problems.
- Wishes to move beyond the basics and develop an understanding of the whole range of machine learning algorithms.
- With intermediate to advanced EXCEL knowledge who is unable to work with large datasets.
- Interested to present their findings in a professional and convincing manner.
- Who wishes to start or transit into a career as a data scientist.
- Who wants to apply machine learning to their domain.





Course Outline:

Module 1:

1. Understanding data types and structures
2. What is the role of statistics and probabilities in machine learning.
 - Preparing your data for machine learning.
 - Splitting your data in python for training and testing.

In the first part as probably, it could be our first time with python, we will work with simple objects in python and learn how to import data frames, how to clean the data and remove empty values or impute missing values. Or maybe transformation of the data and removing outliers.

After that, we will understand why we need to split our data so we can have more confidence on the validity of our machine learning models. We will also know when to use seed randomizations.

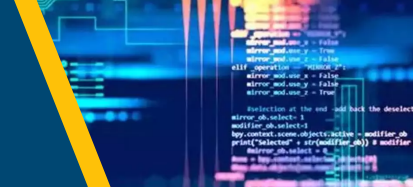
Module 2:

- Working on a classification problem using several classification learning models.
- Working on a regression problem using several regression models and also non-linear models.
- Evaluation the results of the model.
- Using cross validation to verify the effectiveness of the model.

This part will focus on the different categories of machine learning and when do we use classification, regression or clustering.

We will start machine learning problems using classification techniques such as logistic regression and K-nearest neighbors, these techniques we will use on real time problems so audience can relation to problems from a business environment context. After that , we will start using regression models and decision tree models to predict a continuous problem.

Finally, we will test the accuracy of the models and the concepts of overfitting and why the models need to be flexible and not highly overfitted. We will also use cross validation out of sample techniques to be more certain about the effectiveness of the machine learning model being formulated.



Course Outline:

Module 3:

1. Introduction to unsupervised learning.
2. What are the applications of unsupervised learning?
3. Unsupervised hierarchical clustering.

Introduction to neural networks.

Part three we will focus on unsupervised learning techniques and segmentation of the data based on their similarities. When do we apply unsupervised learning and use cases from business.

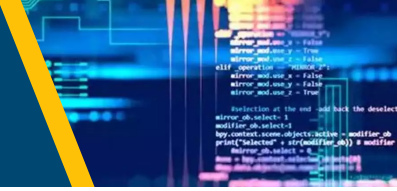
Finally, we will end the workshop with a simple example on neural networks, how propagation is being made? What is gradient descent? and finally why it's so powerful and provides better results than normal models.

Finally, we will test the accuracy of the models and the concepts of overfitting and why the models need to be flexible and not highly overfitted. We will also use cross-validation and out-of-sample techniques to be more certain about the effectiveness of the machine learning model being formulated.

Workshop Requirements:

1. A good processing speed laptop.
2. Anaconda Python download and install before the workshop for Python version 3.7. (Link: <https://www.anaconda.com/distribution/>)

It is preferable that you have a basic understanding of Python and you have attended our workshop on statistical analysis with Python. However, it is not mandatory as we take participants step by step from the beginning in the world of machine learning.



About Course Facilitator:



Haytham Omar

Founder, Rescale Analytics

MIT Certified in Data Science & Big Data Analytics

Haytham Omar is a data scientist, consultant, and a trainer. His areas of expertise include Supply Chain, Business Intelligence, and Data Science. Haytham developed the Inventorize package in R mainly used for supply chain analytics with more than 6000 Downloads so far. Omar is a certified instructor in Supply Chain Analytics and holds a Master's Degree in Supply Chain Management along with various prestigious certifications from MIT and other reputable institutes.

He is highly skilled in following domains: R Coding languages, SQL, SAP ERP, Microsoft Azure solutions, Orange for data mining, AnyLogic for simulation modelling, Advanced Excel, Tableau.

Registration Details:

Regular Fee: AED 1,500 Per Participant

Team Offer: Pay for 2 and register 3rd for free

Includes: Courseware, and SIMFOTIX Certificate

For registration (s) send us your **Name, Designation, Organization, and Mobile Number** to register@simfotix.com

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