HackerU

Introduction to Data Science

32
Academic Hours

Introduction to Data Science

Outline

More and more products use data to optimize and personalize their performance and offer to the customers. Self-learning algorithms allow quickly address issues that most non-hi-tech companies weren't aware exist at all. Seems like every company – big or small, start-up venture or established corporate – everyone must stay up-to-date in all related to data-related techniques.

This course is an introductory level course to machine learning and data science. It will carefully explain the methodology of analytical thinking. Not only will you know the algorithms, but you will also know how—and when—to start and finish your projects, or which ones are likely to succeed but only with significant extra effort.

Target Audience

This course is intended for IT developers, digital marketers, CTO, business analysts who are taking their first steps with data science, data mining and machine learning in order to provides them the required skills for becoming a productive data scientist in that environment. The course is suitable for people who planning to engage in data science and data analytics projects.

Prerequisites

Participant must have:

- Soft skills in programing and statistics.

- Basic knowledge of SQL, Excel and any analytical experience helps

Content

Module 01
General

- What is Big-Data and why is it good.
- Big-Data Characteristics & types
- Challenges and complexity
- Use cases in today's world

Module 02
Methodology

- Defining the business problem or opportunity
- Defining the business objective
- Designing requirements
- Understanding the relationship between causes and consequences
- Setting up the environment and exploring the data
- Supervised vs. unsupervised vs. reinforcement learning.
- Supervised learning: classification vs. regression
- Overview of model building steps: Data preparation, Model building, Model validation, Model assessment, Model implementation
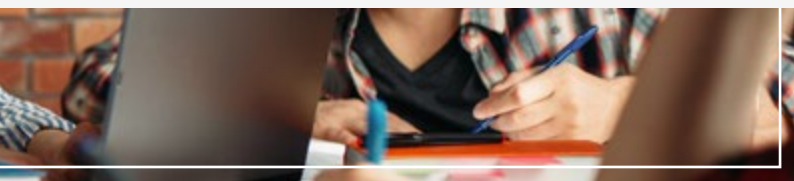
Module 03
Supervised learned model R-regression

- Targeting and scoring models
- What you need to develop a scoring model
- Checking model assumptions:
  - Linearity
  - Normality
  - Equal variance
- Definition of predicted variables
- Calibration data and statistical model
- Building a predictive model in R—Concept on the basis of Churn modelfor cell-phone users.
- Overview of model building steps

"Not only will you know the algorithms, but **you will also know how—and when—to start and finish your projects**"

Module 04
Classification models

- Explaining the cluster analyses
- Visualizing the model output
- Evaluating the models
- Statistical segmentation
- Segment Strategies
- Selecting the "right" number of segments
- Segmentation variables
- Archetypical profiles
- Running a hierarchical segmentation in R

Module 05
Unsupervised Learning

- Unsupervised Learning and Principal Components Analysis
- Exploring Principal Components Analysis and Proportion of VarianceExplained
- K-means Clustering
- Hierarchical Clustering
- Examples of case studies

The HackerU
Advantage

We have unparalleled experience in building advanced training programs for companies and organizations around the world – Talk to one of our experts and find out why.

01
Handcrafted Training Programs

02
State-Of-The-Art Learning Materials

03
Israel's Premier Training Center

04
Fueled by Industry Leading Experts

05
Over 20 Years of Proven IT-Education Success

info@hackerupro.com

www.hackerupro.com