



Course outline

- This course will equip you with the knowledge to execute K-mean cluster analysis and hierarchical cluster analysis, using real-world datasets as well as the core principles of unsupervised machine learning techniques.
- You will also be equipped with the skills to reduce the number of variables under consideration by deriving a set of principal variables (also known as dimensionality reduction) using Principal Components Analysis (PCA).

Course objectives

Unsupervised learning is employed often in machine learning to identify patterns in data without trying to make predictions. Clustering and dimensionality reduction are two subfields of unsupervised learning commonly used to identify patterns and yield valuable analysis.

At the end of the course, participants will be able to:

- Comprehend the rationales behind the cluster analysis
- Run K-mean cluster and hierarchical cluster analysis using the Tidyverse approach
- Understand the principles of dimensionality reduction and principal components analysis
- Execute PCA and interpret the results with visualisation
- Know the conditions under which clustering and dimensionality reduction should be performed

Course details

1 week

Certificated by Singapore Management University (SMU)

Who should attend

- Anyone with an interest in learning about the fundamentals of data science programming
- Anyone whose work interfaces with data analysis who wants to learn key concepts, formulations, algorithms, and practical examples of what is possible in machine learning and artificial intelligence
- Managers who need the vision and understanding of the many opportunities, costs, and likely performance hurdles in predictive modelling, especially as they pertain to large amounts of textual (or similar) data
- Professionals looking for a deeper understanding and hands-on experience with SMU adjunct faculty and industry expert

Pre-requisites

No prior experience or background required

Tools

R Programming

Model of training

Classroom, Field trip

