Introduction

1. ML Fundamentals
2. ML Common Use Cases
3. Understanding Supervised and Unsupervised Learning Techniques

Clustering

Clustering

1. Similarity Metrics
2. Distance Measure Types: Euclidean, Cosine Measures
3. Creating predictive models
4. Understanding K-Means Clustering
5. Understanding TF-IDF, Cosine Similarity and their application to Vector Space Model
6. Case study

Implementing Association Rule Mining

Decision Tree Classifier

Implementing Association Rule Mining

1. What is Association Rules & its use cases?
2. What is Recommendation Engine & it's working?
3. Recommendation Use-case
4. Case study

Decision Tree Classifier

Feat

Intro

Decision Tree Classifier

1. How to build Decision trees
2. What is Classification and its use cases?
3. What is Decision Tree?
4. Algorithm for Decision Tree Induction
5. Creating a Decision Tree
6. Confusion Matrix
7. Case study

Introd

Random Forest Classifier

1. What is Random Forests
2. Features of Random Forest
3. Out of Box Error Estimate and Variable Importance
4. Case study

Support Vector Machines

Support Vector Machines

1. Case Study
2. Introduction to SVMs
3. SVM History
4. Vectors Overview
5. Decision Surfaces
6. Linear SVMs
7. The Kernel Trick
8. Non-Linear SVMs
9. The Kernel SVM

Feature Selection and Pre-processing +

Feature Selection and Pre-processing

1. How to select the right data
2. Which are the best features to use
3. Additional feature selection techniques
4. A feature selection case study
5. Preprocessing
6. Preprocessing Scaling Techniques
7. How to preprocess your data
8. How to scale your data
9. Feature Scaling Final Project

Introduction to Artificial Neural Networks

Introduction to Artificial Neural Networks

1. The Detailed ANN
2. The Activation Functions
3. How do ANNs work & learn
4. Gradient Descent
5. Stochastic Gradient Descent
6. Backpropogation
7. Understand limitations of a Single Perceptron
8. Understand Neural Networks in Detail
9. Illustrate Multi-Layer Perceptron
10. Backpropagation – Learning Algorithm
11. Understand Backpropagation – Using Neural Network Example
12. MLP Digit-Classifier using TensorFlow
13. Building a multi-layered perceptron for classification
14. Why Deep Networks
15. Why Deep Networks give better accuracy?
16. Use-Case Implementation
17. Understand How Deep Network Works?
18. How Backpropagation Works?
19. Illustrate Forward pass, Backward pass
20. Different variants of Gradient Descent