

Machine Learning

Let's teach the computers

Master ML Skills and take your career to the next level !!



15000+ Happy
Students



Best in Online & Offline
Training Experience



Industry Recognized
Expert Mentors

Program Curriculum

Lesson 1

Introduction to Machine Learning

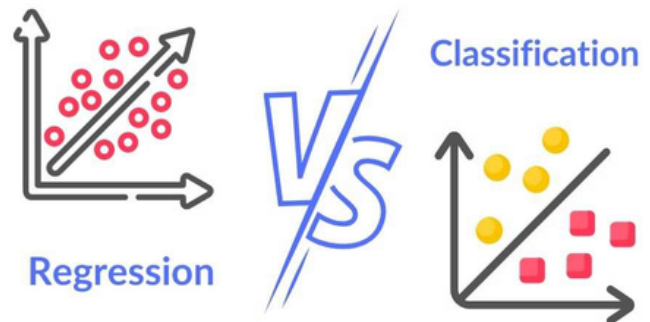
- What is Machine Learning & its use cases ?
- History of Machine Learning
- Types of Machine Learning ?
 - Supervised Learning
 - Un - Supervised Learning
- Testing and Training the Algorithms
- Overfitting & Underfitting the models



Lesson 2

Regression & Classification

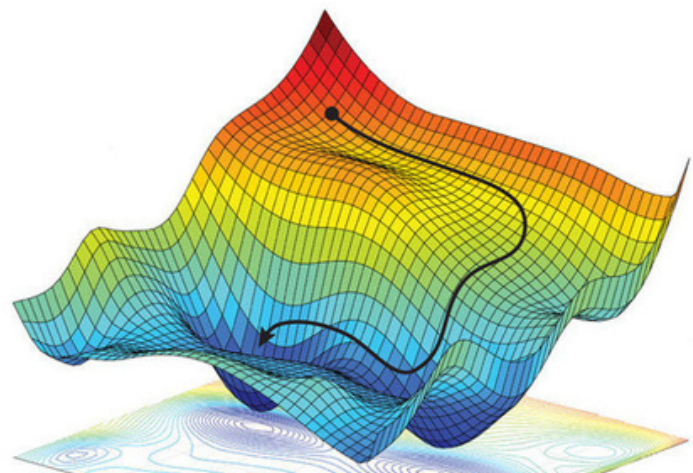
- Linear Regression & its use cases ?
 - Linear Regression Assumptions
 - Evaluation Metrics (R-square, Adj. R-square, p -value, CI, AIC, BIC)
 - Loss Function (MSE, MAE, RMSE)
- Logistic Regression & its use cases ?
 - Sigmoid Function & MLE
 - Confusion Matrix (Accuracy, Precision, Recall)
 - AUC-ROC Curve
- Overview about Lasso & Ridge Regularisation
- Overview about Support Vector Machine (SVM)



Lesson 3

Gradient Descent

- What is Gradient & Descent ?
- Intuition & Maths behind Gradient Descent
- Learning rate with Hyper parameter Optimisation
- Challenges with GD
 - Local minima
 - Vanishing gradients
- Gradient Descent Variant
 - Batch Gradient Descent
 - Stochastic Gradient Descent (SGD)
 - Mini-Batch Gradient Descent



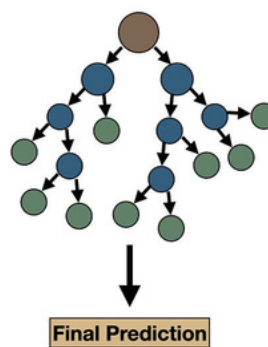
Program Curriculum

Lesson 4

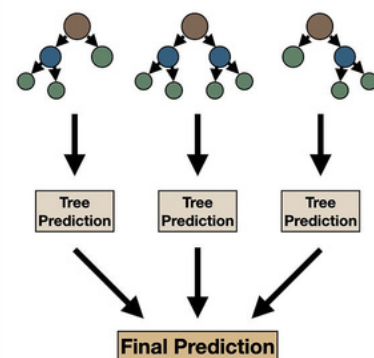
Decision Tree & Ensemble methods - Random Forest

- What is Decision Trees ?
 - Splitting criteria (Gini impurity, entropy, Information gain)
 - Pruning
- Introduction to Bagging & Boosting Techniques
- Cross Validation Techniques
 - Introduction to Cross-Validation
 - Holdout Method
 - K-Fold Cross-Validation
 - Stratified K-Fold Cross-Validation
 - Leave-One-Out Cross-Validation (LOOCV)
 - Time Series Cross-Validation
- What & Why Random Forest ?
 - Visualizing decision trees.
 - Understanding and interpreting decision rules.
 - Feature importance
- XG Boost, Ada Boost ?
 - Objective Function.
 - Regularization (Shrinkage, maximum depth, minimum child weight).
 - Stumps (Decision trees with limited depth)
 - Weight Update Rule
 - Comparison with Other Ensemble Methods

Single Decision Tree



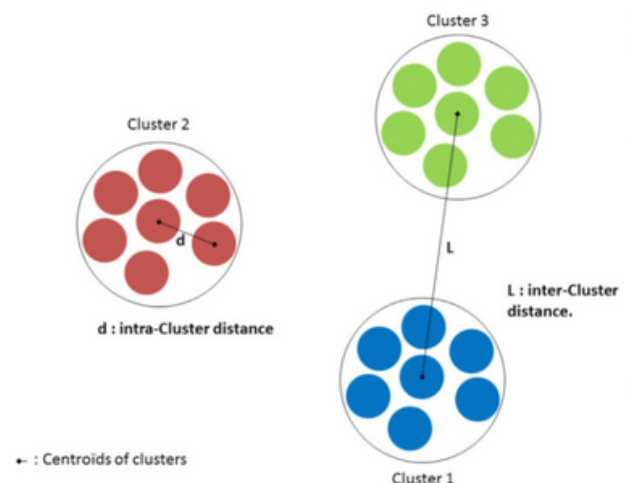
Decision Tree Ensemble



Lesson 5

Introduction to Clustering

- What is Clustering & Its use cases ?
 - K-Means Clustering
 - Hierarchical clustering
 - Distance Metrics (Euclidean & Mahalanobis)
 - Max Linkage
 - Min Linkage
 - Evaluation Metrics (Inertia, Silhouette Score)
- KNN Clustering & Its use cases.
 - Kappa Statistics

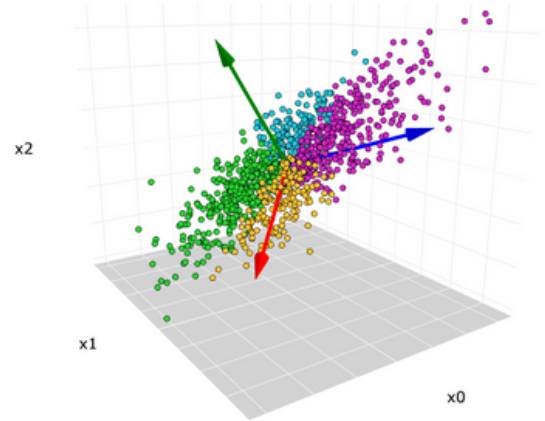


Program Curriculum

Lesson 6

Introduction to PCA

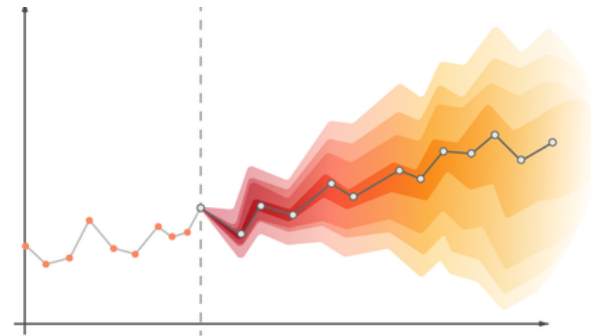
- What is PCA & Why we need ?
 - Curse of Dimensionality
 - Eigen Values & Vector Decomposition
 - Orthogonal Transformation
 - Variance Maximisation
 - Variance Ratio



Lesson 7

Time Series Forecasting


- Introduction to Time Series Forecasting
 - Importance and applications of time series forecasting
- Exploratory Data Analysis (EDA)
 - Visualizing time series data
 - Identifying trends, seasonality, and other patterns
 - Handling missing values and outliers
- Time Series Decomposition
 - Trend, seasonal, and residual components
 - Additive and multiplicative decomposition
- Statistical Models for Time Series Forecasting
 - Moving averages (Simple, Weighted, Exponential)
 - Autoregressive Integrated Moving Average (ARIMA) models
 - Seasonal ARIMA (SARIMA) models
 - Box-Jenkins methodology for model selection and diagnostics



Its time to showcase what we have learnt so far..

- **Marketing: Customer Segmentation for Targeted Marketing**
 - ML Techniques: Clustering (K-means, Hierarchical Clustering), Dimensionality Reduction (PCA)
 - Results: Enhanced customer engagement and loyalty through targeted marketing strategies tailored to specific customer segments.
- **Fintech: Credit Scoring for Loan Approval**
 - ML Techniques: Logistic Regression, Random Forest, Gradient Boosting
 - Results: Improved loan approval process, reduced risk of defaults, and enhanced customer satisfaction through faster decision-making.
 -
- **Finance: Fraud Detection in Credit Card Transactions**
 - ML Techniques: Ensemble Methods
 - Results: Reduced fraud losses and improved customer trust through timely detection and prevention of fraudulent transactions.

OUR TESTIMONIALS

 Pooja Patel
1 review


★★★★★ 5 days ago **NEW**

Under **Tarun's guidance**, I had learn SQL, and his explanations are exceptionally clear. If you're keen on mastering SQL concepts, I highly recommend considering DataMantra.

 Shubham Parashar
59 reviews · 22 photos

★★★★★ a week ago **NEW**

I have taken online training on SQL from Data Mantra. Course content is very relevant and practicals focused. Trainer is well versed in industry requirements thus training imparted is good to start working on industry projects.

 arpit sharma
3 reviews


★★★★★ a week ago **NEW**

Participating in Data Mantra Course was truly enriching. The curriculum was meticulously designed, encompassing crucial concepts and techniques essential for excelling in SQL and Tableau, Alteryx, python, power bi. **Mr. Tarun**, the instructor, demonstrated exceptional expertise and offered outstanding support throughout the course.

 Vishal Kumar
2 reviews · 13 photos


★★★★★ a week ago **NEW**

Learning SQL from datamantra is such a great experience.

 Neelesh Gupta
9 reviews

★★★★★ 4 days ago **NEW**

Tarun hands on experience in machine learning is biggest advantage for students learning from him, he explain the concepts in depth and make sure to resolve each and every doubt of his students, I will refer him to increase your ML understanding

 Naman Singh
4 reviews

★★★★★ a week ago **NEW**

It was an incredibly enriching experience with Data mantra. The curriculum was well-structured and comprehensive, covering all the essential concepts and techniques needed to excel in both SQL and Tableau. The instructor **Mr. Tarun** were highly knowledgeable and provided excellent support throughout the course.


 Vineet Raina · 1st
Business Analyst at CandorWorks | Certified Business Analys...
1yr · 🌐

It gives me immense pleasure to share that I have graduated from the Master's Program in Business Analysis from Simplilearn by completing all the mandatory courses which were part of the curriculum. I thank Simplilearn and my course instructors Vaibhav Pandey, **Tarun Sachdeva** & Vaibhav Rajvanshi for conducting the training.


 Aditi Nath
1 review

★★★★★ a week ago **NEW**

I had a great experience studying SQL at Data Mantra, especially with the teaching style of **Tarun sir**. The curriculum is exceptionally easy to grasp, and unique teaching method makes it even simpler to comprehend concepts ranging from basic to advanced levels. He use of real-life examples enhances understanding and real life application. Highly recommended for anyone looking to master SQL effectively 🙌.

 Kumar Saurav · 1st
Data Analyst
8mo · 🌐

I'm bursting with excitement to share that I've just completed the Complete SQL Mastery offered by Jobaaj Learnings. This course was packed with valuable information. Thankyou Jobaaj Learnings and **Tarun Sachdeva** for providing this wonderful course.

 Vaibhav Srivastava · 1st
Aspiring Data Analyst | Advanced Excel, Python, SQL, Googl...
7mo · 🌐

Dear Friends very happy on sharing this Gold Badges in Hacker Rank SQL

Very very thanks to Rakshit Vig Sir and **Tarun Sachdeva** Sir for making such kind of value for me

MEET YOUR TUTOR



Tarun Sachdeva
Tableau & Alteryx Expert

Founder DataMantra, Instructor

[LinkedIn](#)

I am based out of France, on a path of continuous learning and growth, as I am dedicated to expanding my knowledge base by pursuing an MSc in Data Science and AI from EDHEC Business School, France, and I love to make new relationships across the world. In the meantime, I love to write about my travel experiences and blogs on Medium.

With nearly **8 years** of diverse professional experience spanning the Finance, Manufacturing, and Telecom sectors, I have honed my skills and expertise in various aspects of data analysis.

Being **Tableau** my first love, I am an expert in extracting and transforming data efficiently through SQL and utilizing ETL tools like **Alteryx**. Furthermore, I have great knowledge of Machine learning algorithms too.

My recent role was **Senior Financial Data Analyst** in **Credit & Risk Controllership** at American Express.

Are you ready to take the next step in your career and join our hands-on training program?

Rs. **19999/-**

Please note that our program requires a fee, which is payable only upon confirmation of your successful admission. Once admitted, you will be provided with a secure payment link, where you can complete the transaction using multiple payment methods offered by our trusted payment partner.

OUR STUDENTS ARE PLACED IN



OUR GLOBAL PARTNERS



OUR VISION

Help & Guide students globally with innovative, personalized education for empowered learning and especially in changing the Domain.

OUR MISSION

Empowering individuals worldwide, our mission is to provide accessible and top-quality education, fostering skills that drive career success and personal growth.

OUR STORY

Our story is one of dedication to shaping futures, breaking barriers, and creating a dynamic and easy learning environment for every student and Corporate professionals



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