YouTube Channel Name : Siddhardhan

Channel link: https://www.youtube.com/c/Siddhardhan

Video explaining this Curriculum: https://youtu.be/bY__YW-xknU

Schedule : 3 Videos per week:

Monday Evening; Wednesday Evening; Friday Evening

Prerequisite : Interest to learn Machine Learning

Hands-On Machine Learning Course Curriculum

Module 1: Machine Learning Basics:

- 1.1. Artificial Intelligence vs Machine Learning vs Deep Learning
- 1.2. Types of Machine Learning: Supervised, Unsupervised & Reinforcement Learning
- 1.3. Supervised Learning & its Types
- 1.4. Unsupervised Learning & its Types
- 1.5. Deep Learning – Basics

Module 2: Python Basics for Machine Learning:

- 2.1. Google Colaboratory for Python – Getting Systems Ready
- 2.2. Python Basics
- 2.3. Python Basic Data Types – int, float, string, complex, boolean
- 2.4. Python Special Data Types – List, Tuple, Set, Dictionary
- 2.5. Operators in Python
- 2.6. if else Statement in Python
- 2.7. Loops in Python – For Loop & While Loop
- 2.8. Functions in Python

Module 3: Python Libraries Tutorial for Machine Learning:

- 3.1. Complete Numpy Tutorial for ML
- 3.2. Complete Pandas Tutorial for ML
- 3.3. Complete Matplotlib & Seaborn Tutorial for ML
- 3.4. Complete Sklearn Tutorial for ML

Module 4: Data Collection & Processing:

- 4.1. Where to collect Data & How to collect Data
- 4.2. Importing Data through Kaggle API
- 4.3. Handling Missing Values
- 4.4. Data Standardization

Module 5: Math Basics for Machine Learning:

- 5.1. Linear Algebra
- 5.2. Calculus
- 5.3. Statistics
- 5.4. Probability

Module 6: Training the Machine Learning Models:

- 6.1. What is a Machine Learning Model
- 6.2. How to select a model for training
- 6.3. Model Optimization Techniques
- 6.4. Model Evaluation

Module 7. Classification Models in Machine Learning:

- 7.1.1. Logistic Regression – Theory & Math
- 7.1.2. Logistic Regression – Building from Scratch
- 7.2.1. Support Vector Machines (SVM) – Theory & Math
- 7.2.2. Support Vector Machines (SVM) – Building from Scratch
- 7.3.1. Decision Tree Classification – Theory & Math
- 7.3.2. Decision Tree Classification – Building from Scratch
- 7.4.1. Random Forest Classification – Theory & Math
- 7.4.2. Random Forest Classification – Building from Scratch
- 7.5.1. Naive Bayes – Theory & Math
- 7.5.2. Naive Bayes – Building from Scratch
- 7.6.1. K-Nearest Neighbors – Theory & Basics
- 7.6.2. K-Nearest Neighbors – Building from Scratch

Module 8: Regression Models in Machine Learning:

- 8.1.1. Linear Regression – Theory & Basics
- 8.1.2. Linear Regression – Building from Scratch
- 8.2.1. Lasso Regression – Theory & Basics
- 8.2.2. Lasso Regression – Building from Scratch
- 8.3.1. Logistic Regression – Theory & Math
- 8.3.2. Logistic Regression – Building from Scratch
- 8.4.1. Support Vector Machine Regression – Theory & Math
- 8.4.2. Support Vector Machine Regression – Building from Scratch
- 8.5.1. Decision Tree Regression – Theory & Math
- 8.5.2. Decision Tree Regression – Building from Scratch
- 8.6.1. Random Forest Regression – Theory & Math
- 8.6.2. Random Forest Regression – Building from Scratch

Module 9: Clustering Models in Machine Learning

- 9.1.1. K-Means Clustering – Theory & math
- 9.1.2. K-Means Clustering – Building from Scratch
- 9.2.1. Hierarchical Clustering – Theory & Math
- 9.2.2. Hierarchical Clustering – Building from Scratch

Module 10: Association Models in Machine Learning:

- 10.1.1. Apriori – Theory & Basics
- 10.1.2. Apriori – Building from Scratch
- 10.2.1. Eclat – Theory & Math
- 10.2.2. Eclat – Building from Scratch

Module 11: Machine Learning Projects with Python:

- Project 1: Face Recognition system
- Project 2: SONAR Rock vs Mine Prediction
- Project 3: Diabetes Prediction with Python
- Project 4: House Price Prediction with Python
- Project 5: Fake News Prediction with Python

Project 6: Loan Status Prediction with Python

******* And More Project Videos Every Week*******

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