

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING BEGINNER



This course will cover all the topics which are most important for technical interviews. At the end of every topic questions based on the topic will be shared and solved.

by D'CODE Innovation Lab



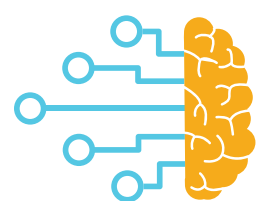
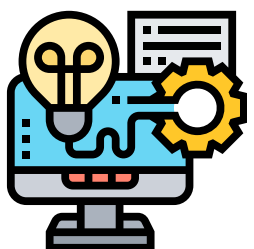
1 PYTHON

- Big Picture
- Pycharm
- Package Manager (PIP/Anaconda)
- Scaler Types, Operators and Control Flow
- Introducing Strings, Collections and Iteration
- Modularity in Python
- Object Oriented Programming
- Built-In Collections
- Exception Handling
- Iterations and Iterables
- Classes
- File IO and Resource Management
- Multithreading
- Packages
- Database
- Introduction to REST Api
- Introduction to Flask
- Interacting with API
- Case Study
 - A Game Of Chance
 - Movie Store (using Collections)
 - Movie Store (using Database)
 - Build a static file generator with python
 - Add Extension to a Static Site Generator
 - Build a Personal Budget Report with Python Collections and Iterables
 - Decoding Sensor Data using Python
 - Build Your Own CLI Planner App using python abstract Base classes
 - Control drone from your laptop



2 DATA STRUCTURES

- Introduction to Data Structure
- Big O Notation
- Essential Concept
 - Memory and Logarithm
- Array
- Recursion
- Linked List
- Stack
- Queue
- Hash tables
- Searching Algorithm
- Sorting Algorithm



3 AI/ML

- Introduction
- Environment Setup
- Jupyter Overview
- Numpy
- Pandas
- Matplotlib
- Seaborn
- Introduction to Machine Learning
- Difference between Machine Learning, Deep learning and Data Science
- Supervised Learning and Unsupervised Learning
- Linear Regression
- Logistic Regression
- K-Nearest Neighbour
- Decision trees and Random Forest
- Introduction to OpenCV
- Introduction to Natural Language Processing



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4 PROJECTS

- Build a FaceRecognition system
- Sentiment Analysis System
- Digit Recognition
- MoneyBall: the power of Sports Analytics
- Election Forecasting: Predicting the winner Before any Votes are Cast
- Predictive Diagnosis: Discovering Patterns for Disease Detection
- Boston House Pricing Prediction Project
- Build a Movie Recommender
- Loan Eligibility Prediction
- Music Recommendation System
- Rating Review System based on Text
- Summary Generator
- Many More...



5 ASSIGNMENTS



- Linear Regression
 - an Ecommerce company based in New York City that sells clothing online but they also have in-store style and clothing advice sessions. Customers come in to the store, have sessions/meetings with a personal stylist, then they can go home and order either on a mobile app or website for the clothes they want. The company is trying to decide whether to focus their efforts on their mobile app experience or their website. They've hired you on contract to help them figure it out!
- Logistic Regression
 - In this project we will be working with a fake advertising data set, indicating whether or not a particular internet user clicked on an Advertisement. We will try to create a model that will predict whether or not they will click on an ad based off the features of that user.
- Random Forest
 - Lending Club connects people who need money (borrowers) with people who have money (investors). Hopefully, as an investor you would want to invest in people who showed a profile of having a high probability of paying you back. We will try to create a model that will help predict this.
- And Many More..

