ARTIFICIAL INTELLIGENCE & MACHINE LEARNING CERTIFICATION PROGRAM

Master's program

CO-DEVELOPED WITH IBM

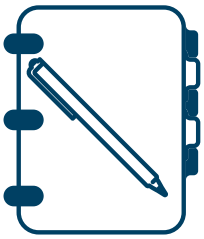
- 250+ hrs of live classroom by industry expert
- 1 year of unlimited flexible classroom subscription
- 12+ real-time Projects & Capstone
- Guaranteed job referrals in top companies

Classroom Training in Bangalore | Live Online Training | 8 Months Certification Program

Course Highlights

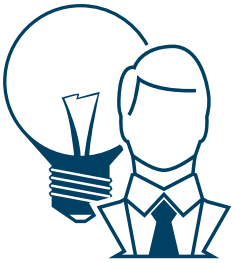
Learnbay offers Artificial Intelligence & ML Certification Program which is co-developed and **certified with IBM**. Course features 12+ real world industry projects and 2 capstone project under the mentor-ship and guidance of Data Science and AI expert.

Course is especially designed for working professionals having **1+ years of experience** in any domain. Our course is best suited for professionals looking to change their current domain and start career in Artificial Intelligence.



Live Sessions By Expert

- Classroom training in Bangalore
- Live Faculty led Online Training
- 250+ hrs of Interactive Classes



Project Based Learning

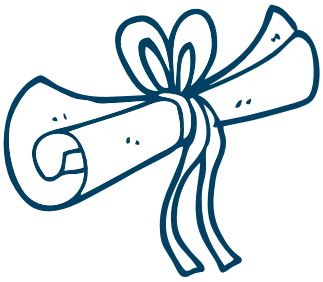
- 12+ Real World Industry Project
- 2 Capstone Project
- Mentorship & Guidance By Expert

One Year Flexible Subscription

- Flexibility to attend multiple batches from different trainers.
- Life time access to Recordings

Special Support to Non Programmers

- Learn Python from scratch
- Special classes for Non programming background
- Real time use cases from multiple domain



Certification From IBM in Data Science And AI

- IBM certified AI & ML Program
- Industry Accredited Global Certification Course
- Co-developed With IBM

Job Assistance Program For Professionals

- Resume support from expert
- Interview prep session and Mock interview
- **Guaranteed job referrals** for professionals

Top Rated Training Institute in India For Data Science And AI Certification

Become IBM Certified Data Sience & AI Expert

4.8 ★★★★★
300+ user Review

Quora
Top Rated

4.9 ★★★★★

Click to read reviews

Program Details

Program Eligibility

Work Experience :

- Working Professionals With **1+ Years of experience** in any domain (technical or non technical)

Academics :

- BE/B.Tech (*from any branch*) , BBA/MBA, MCA/M.Tech, B.Com, Graduation in Mathematics, Statistics, IT

Who Should Apply

- Software developers/Programmers, Project Managers, Manual And Automation Test Engineer, Java and .net Developer, Informatica, Business Analyst.
- Database Admin, System Admin, Professionals from Sales, Marketing, Operations.
- SAP domain expert, Python , Embedded developer , Android/ios developer.
- Professionals from BFSI, Supply chain, Retail, healthcare, Pharma.
- Manufacturing, Mechanical, Electrical, Automobiles, Telecom domain.We have domain specific project from these sectors.
- Professionals planning for *Masters or higher education* in Artificial Intelligence

To check your eligibility, Apply for Profile Review and Counselling with expert:

Click here to apply for profile review

About Instructors

Our instructors are **working professionals** graduated from premier institutes like BITS Pilani, IIT Roorkee and working in companies as **Artificial Intelligence, Data Scientist, Machine Learning expert.**

Instructors Working in Morgan Stanley, American Express, InMobi, Mu Sigma, Sigmoid, Samsung, HSBC

Course Prerequisite

There is **No Prerequisite** for this course as we cover programming and statistics from basics.We provide special classes & support for professionals from **non-programming/non-technical domain.**

Fees and Duration

Weekday Batches : 4 Months
Monday - Friday - 2 hours everyday

Weekend Batches : 6 Months
Saturday & Sunday - 4 hours everyday

Program Fee: Rs. 75,000/-

To know more about applicable discount, next batch details...
Live chat on Whatsapp

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Modules And Tools

PYTHON

STATISTICS

MACHINE LEARNING

DEEP LEARNING USING TENSORFLOW

TIME SERIES ANALYSIS AND FORECASTING

NATURAL LANGUAGE PROCESSING

Keras

RL

github

Computer Vision

OpenCV

PYTORCH

Real world Industry Project from multiple domains

Deep Learning

Finance

Automotive

Retail

Supply chain

Machine Learning

Healthcare

Computer Vision

Manufacturing

Telecom

NLP

Reinforcement Learning

Interview Prep & Job Assistance Program

Resume Prep Session

Interview Prep Session

Mock Interviews By Expert

Job Referrals in data science

Global Certification in Artificial Intelligence

Become an industry expert With **Artificial Intelligence Master's Program** in collaboration with IBM. Upon completion of this Program, you will **receive the certificates from IBM** which will help you to become industry ready.

Get **Industry-renowned global certification** in Artificial Intelligence. Our certification is **recognized globally** and industry wide in companies like JP Morgan, Morgan Stanley, Wells Fargo, Antuit , Genpact, Cognizant, Delloite, E&Y, Tredence Analytics, Mu-sigma and other **top MNC's and Banking & Finance companies**.

Sample Certificate

Download Certificate

Demo & Sample Class Recordings

Watch more demo session

Job Assistance

1 Certificate	2 Project	3 Resume Update	4 Preparation	5 Job Referral
After completion of your program you have to pass final exam to get IBM Certificate.	Attend project sessions from industry experts to get a hands on experience of real time projects.	After certification and project session update your resume.	Start preparing youself with mock interviews and guided interview sessions.	Once you get eligible, you will start getting guarenteed Interview Calls

Eligibility Criteria

- Should have completed Term 1,2 and Term 3 of our program (Refer Course brochure for details)
- Should have more than **1 Years of work experience** (in any Domain)
- Should have scored passing marks in **IBM final Certification exam**
- Should have completed 70% of Assignments and case studies
- At-least completed 2 Projects (Mentored and guided by our expert)

To know more about Guaranteed Interview call, Job Referral & Industrial Projects

Download Project & Job Referral Brochure

Whatsapp Now

Placement And Success Stories

Manu Agrawal

Working at Microsoft

Everything about this program is credible
If you miss any class you can watch recorded sessions
All practice and real time codes are available in repository and the best part is you can shift batches as per your convenience.

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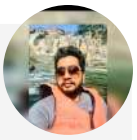

Rahul Anand

Working at Affine Analytics

Learnbay is one of the best institutes in Bangalore. The faculty members are experienced working professionals and they help you to build the concepts in order to achieve your goals. The whole course and practical sessions are very helpful specially in the field of data science.

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Pawan Yadav

Working at Oracle

I have done Data Science certification and i placed in Oracle. Journey was really tough for me because i was from core electronics domain. Mentors are really helpful and they have good knowledge. Personally i liked teaching style of Trainer Nishant. Facility of recording classes is very useful.

Click here to view LinkedIn profile

Afrin Sultana

Working at Fossil

It's a very good place to start with..LB does what it says.They have good faculties for machine learning, statistics, python and some good project sessions as well. Krishna and Abhisekh helped till I got placed. I have got multiple offers after doing the course from here and some extra effort from my end as well.So nothing is bad about it.In one word I would say it's excellent.

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Neelesh Dugar

Working at Act21 Softwares

Very well designed and structured. I really appreciate him and would want to put some light on Utkarsh Kulshrestha. Cheers to you guys! I had an amazing experience at Learnbay, which got me where I am today. Thank you to each one of you and also Abhishek who is handling very well. All the best guys!!

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Deevraj

Working at Mindtree

Quality of content is very nice mainly instructor concentrating of theory part, live project sessions make you feel confident to attend interviews.
Multiple batch options, access for any instructor class videos or materials. Totally positive environment around. One can join here with no second thought.

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Keerti Bafna

Working at Antuit

I joined the Data Science batch of September 2018. The trainer was Amritansh. And since then i have evolved in Machine Learning drastically . The trainer is very educated and teaches passionately The staff is supporting and you can re-attend and switch classes anytime

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Placement And Success Stories

Srikanth Saurav

Working at Mediamarksaturn

Machine Learning concepts & Statistics are very well explained by Utkarsh. Best thing was completing the syllabus on-time as they have promised. Trainers are clearing the doubts . Got multiple joining offers from different MNCs for Data Science and AI developer

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Aswini Dindukurthy

Working at Deloitte

I have taken Data Science course from Learnbay 3 years back, it is Excellent training center. After my training I was equal to 3+ exp. I had a very good trainer , Real-Time Project Oriented Classes, but one thing I have to say to all that daily practice is very much needed.

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Suman Karmakar

Working at IBM

It was a good and effective course with dedicated faculties for modules.You get flexibility to attend classes from multiple instructors.Very Supportive environment for learning.

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Rajeev

Working at TCS

Good Trainer and nice supportive environment.One of the best classroom institute in Bangalore for working professionals looking to change their domain to data science.

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Shakti Suwan

Working at American Express

I Joined Learnbay as Fresher and Attended training in data science And Artificial Intelligence.Course is job oriented, Practical and in-depth .To the point, well versed trainers, well engineered course. Superb!!

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Amrita Das

Working at Cognizant

The offering here is best in the industry I would say both cost and curriculum wise. One advantage joining here is you can access their resources for lifetime unlike others where you have accessibility only for a year or so. Most importantly, there is continuous assistance for recruitment. Well,one enrolls for any course and ends up getting a handsomely paying job.

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Read more google reviews

One Year Flexible Subscription

About One Year Classroom Subscription :

One year Flexible Subscription program is designed for working professional so that you can learn at your pace without missing any classes. With this program, you get access to attend multiple classroom/Faculty led online batches for a period of 1 year.

- Learn at your own pace with **unlimited flexible** access of multiple batches.
- Option to attend multiple batches from **different instructors** in classroom/live online mode
- Backup classes from other batches.
- You can attend **weekdays batch or weekend** or both based on your availability
- **Repeat or revise modules multiple times**.

Program Fee

Rs. 75,000 +taxes

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How to Apply For this Program ?

Talk to Our Admission Executive

Contact our Admission Team for more details on course eligibility, Queries on course curriculum, Certification etc.. If your profile is suitable for this course, you will be further guided for detailed counselling and Profile Review sessions.

Request A Callback

Whatsapp Now

Apply For Profile Review & Personalized Counselling

Attend Personalised Career Counselling and profile review session with expert. This session will help you to understand whether your profile is suitable for Data Science and AI certification course.
Note: You can attend this session online or visting our HSR center (Bangalore)

Apply For Profile Review

Pay and Enrol For this Program

Contact our Admission Officer for discount coupon. Apply the discount coupon and enroll for IBM certified Program.

Pay and Enroll for the program

Syllabus | 4 Terms | 8 Months

MODULE 0 :

Modules/Tools : Special classes for Non-programmers - GitHub + Installation + Basic programming fundamentals

Term Duration : 4 days (8 hours)

TERM 1 :

Modules/Tools : Core Python + Advance Python (Numpy + Pandas + Matplotlib + Seaborn)

Term Duration : 5 Week (Python) : : (40 hours : : 1.5 months)

TERM 2 :

Modules/Tools : Statistics (3 weeks - 24 hrs) + Machine Learning (6 Week - 48 hrs) + Capstone Project

Term Duration : 9 Weeks (72 hours : : 2 Months)

TERM 3 :

Modules/Tools : Deep Learning (5 Weeks - 40 hours) + Natural Language Processing & Text Analytics (4 Weeks - 32 hours) + Computer Vision (3 Weeks - 24 hours) + Capstone Project

Term Duration : 12 Weeks (96 hours : : 3 Month)

Final Exam For IBM Certification After Term 3

Important Note :

After Successful completion of term 1, term 2 and term 3, Candidates become eligible for Job Assistance Program (2- 3 weeks) which includes :

- **Resume Session and Assistance**
- **Interview Prep Session & Mock Interview**
- **Participating in Live Kaggle Competitions**
- **Guaranteed Job Referrals for AI/ML engineer roles**
- **Certification From IBM (Upon scoring passing marks in IBM final Exam)**
- **You can start attending interviews after Term 3 and keep learning other modules from Term 4 simultaneously.**
- **Attend guided session for real time projects from multiple domain and get project Support/Mentorship from expert instructors.**

TERM 4 :

Modules/Tools : Cloud Deployment of ML Model using GCP + Reinforcement Learning

Term Duration : 4 Weeks (32 hours : : 1 Month)

MODULE 0 : SPECIAL CLASSES FOR NON-PROGRAMMERS | 8 hours

Module 0
Basic

Chapter 1: Introduction to Programming (3 hrs)

What is a programming language ?
Source code Vs bytecode Vs machine code
Compiler Vs Interpreter
C/C++, Java Vs Python

Chapter 2: Jupyter notebook basics (1 hrs)

Different type of code editors in pythonIntroduction to Anaconda and jupyter notebookFlavours of python.

Chapter 3: Python Programming Basics (2 hrs)

Variable Vs identifiers Vs strings
Operators Vs operand Procedure oriented Vs modular programming

Chapter 4: Statistics basics (2 hrs)

Introduction to statisticsMean, median, mode, Standard deviation, AverageIntroduction to probability, permutations and combinationsIntroduction to linear Algebra

Chapter 5: Git and GitHub (2 hrs)

Learn the key concepts of the Git source control system
Step through the entire basic Git workflow
Configure SSH for authentication
Create and use a remote repository on GitHub
Git Overview
Set up & configuration
Working with git locally

[NOTE]

This module 0 is for those who are from non-technical background like Mechanical, BBA, MBA, B.Com, M.Com, etc.
Or for those who work in Non-IT sectors to get in-depth knowledge of programming and how to use it in Data Science.

MODULE 1 : PYTHON FOR DATA SCIENCE | 40 hours

1. Programming Basics & Environment Setup

Installing Anaconda ,Anaconda Basics and Introduction
Get familiar with version control, Git and GitHub.
Basic Github Commands.
Intro to Jupyter Notebook environment. Basics Jupyter notebook Commands.
Programming language basics.

2. Python Programming Overview

Python Overview
Python 2.7 vs Python 3
Writing your First Python Program
Lines and Indentation,Python Identifiers
Various Operators and Operators Precedence
Getting input from User,Comments,Multi line Comments.

3. Strings, Decisions And Loop Control

Working With Numbers, Booleans and Strings,String types and formatting, String operations
Simple if Statement, if-else Statement if-elif Statement.
Introduction to while Loops.
Introduction to for Loops,Using continue and break.

Class hands-on :

6 programs/coding exercise on string, loop and conditions in classroom

4. Python Data Types

List,Tuples,Dictionaries
Python Lists,Tuples,Dictionaries
Accessing Values,Basic Operations
Indexing, Slicing, and Matrixes
Built-in Functions & Methods
Exercises on List,Tuples And Dictionary

Class hands-on :

- *Program to convert tuple to dictionary*
- *Remove Duplicate from Lists*
- *Python program to reverse a tuple*
- *Program to add all elements in list.*
- *+ 3 more programs to be covered in class*

5. Functions And Modules

Introduction To Functions – Why
Defining Functions
Calling Functions
Functions With Multiple Arguments.
Anonymous Functions - Lambda
Using Built-In Modules,User-Defined Modules,Module Namespaces,
Iterators And Generators

Class hands-on :

8+ Programs to be covered in class from functions, Lambda, modules, Generators and Packages.

6. File I/O And Exceptional Handling and Regular Expression

Opening and Closing Files
open Function,file Object Attributes
close() Method ,Read,write,seek.
Exception Handling, try-finally Clause
Raising an Exceptions,User-Defined Exceptions
Regular Expression- Search and Replace
Regular Expression Modifiers
Regular Expression Patterns,re module

Class hands-on :

10+ Programs to be covered in class from File IO,Reg-ex and exception handling.

7. Data Analysis Using Numpy And Pandas

Introduction to **Numpy**. Array Creation,Printing Arrays, Basic Operation - Indexing,Slicing and Iterating, Shape Manipulation - Changing shape,stacking and spliting of array
Vector stacking, Broadcasting with Numpy, *Numpy for Statistical Operation.*

Pandas : Introduction to Pandas
Importing data into Python
Pandas Data Frames,Indexing Data Frames ,Basic Operations With Data frame,Renaming Columns,Subletting and filtering a data frame.

8. Data Visualisation using Python: Matplotlib and Seaborn

Matplotlib: Introduction,plot(),Controlling Line Properties,Subplot with Functional Method, MUltiple Plot, Working with Multiple Figures,Histograms

Seaborn :
Intro to Seaborn And Visualizing statistical relationships , Import and Prepare data .Plotting with categorical data and Visualizing linear relationships Seaborn Exercise

Real time Use cases in Python to be Covered in Class

- ***3 Case Study on Numpy, Pandas , Matplotlib***
- ***1 Case Study on Pandas And Seaborn***

Python Assignments

Assignment 1 (Week 1):

10 Coding exercises on Python Basics - Variables, Operators, Strings, Loops

Assignment 2 (Week 2):

10 Python Programs and practice set on List,Tuples ,Dictionaries & matrices operations

Assignment 3 (Week 3):

10 Coding exercises on Functions, File And Regular Expression

Assignment 4 (Week 4):

15 Programs and Practice set Questions on Numpy and Pandas

Assignment 5 (Week 5):

2 Case Studies using Numpy Pandas and Matplotlib.

1. Fundamentals of Math and Probability

Basic understanding of linear algebra, Matrics, vectors
Addition and Multimplication of matrics
Fundamentals of Probability
Probability distributed function and cumulative distributed function.

Class Hand-on

Problem solving using R for vector manupulation
Problem solving for probability assignments

2. Descriptive Statistics

Describe or sumarise a set of data
Measure of central tendency and measure of dispersion.
The mean,median,mode, curtosis and skewness
Computing Standard deviation and Variance.
Types of distribution.

Class Handson:

5 Point summary BoxPlot
Histogram and Bar Chart
Exploratory analytics R Methods

3. Inferential Statistics

What is inferential statistics
Different types of Sampling techniques
Central Limit Theorem
Point estimate and Interval estimate
Creating confidence interval for population parameter
Characteristics of Z-distribution and T-Distribution
Basics of Hypothesis Testing
Type of test and rejection region
Type of errors in Hypothesis resting,

Type-I error and Type-II errors
P-Value and Z-Score Method
T-Test, Analysis of variance(ANOVA) and Analysis of Co variance(ANCOVA)
Regression analysis in ANOVA

Class Hands-on:

Problem solving for C.L.T
Problem solving Hypothesis Testing
Problem solving for T-test, Z-score test
Case study and model run for ANOVA, ANCOVA

4. Hypothesis Testing

Hypothesis Testing
Basics of Hypothesis Testing
Type of test and Rejection Region
Type o errors-Type 1 Errors,Type 2 Errors
P value method,Z score Method
The *Chi-Square* Test of Independence
Regression
Factorial Analysis of Variance
Pearson Correlation Coefficients in Depth
Statistical Significance, Effect Size

5. Data Processing & Exploratory Data Analysis

Introduction to Data Cleaning
Data Pre-processing
What is Data Wrangling?
How to Restructure the data?
What is Data Integration?
Data Transformation
EDA : Finding and Dealing with Missing Values.What are Outliers? Using Z-scores to Find *Outliers*.Introduction to Bivariate Analysis,Scatter Plots and Heatmaps.
Introduction to Multivariate Analysis

MODULE 3 : MACHINE LEARNING ALGORITHMS | 48 hours

Introduction To Machine Learning

What is Machine Learning?
What is the Challenge?
Introduction to Supervised Learning,
Introduction to Unsupervised Learning
What is Reinforcement Learning?
Machine Learning applications
Difference between Machine Learning and Deep Learning

1. Supervised Learning

Support Vector Machines
Linear regression
Logistic regression
Naive Bayes
Linear discriminant analysis
Decision tree
k-nearest neighbor algorithm
Neural Networks (Multilayer perceptron)
Similarity learning

2. Linear Regression

Introduction to Linear Regression
Linear Regression with Multiple Variables
Disadvantage of Linear Models
Interpretation of Model Outputs
Understanding Covariance and Colinearity
Understanding Heteroscedasticity

Case Study – Application of Linear Regression for Housing Price Prediction

3. Logistic Regression

Introduction to Logistic Regression.–
Why Logistic Regression .
Introduce the notion of classification
Cost function for logistic regression
Application of logistic regression to multi-class classification.
Confusion Matrix, Odd's Ratio And ROC Curve
Advantages And Disadvantages of Logistic Regression.
Case Study: To classify an *email as spam or not spam using logistic Regression.*

4. Decision Trees

Decision Tree – data set
How to build decision tree?
Understanding Kart Model
Classification Rules- Overfitting Problem
Stopping Criteria And Pruning
How to Find final size of Trees?
Model A decision Tree.
Naive Bayes
Random Forests and Support Vector Machines
Interpretation of Model Outputs

Case Study:
1 Business Case Study for Kart Model
2 Business Case Study for Random Forest
3 Business Case Study for SVM

5. Unsupervised Learning

Hierarchical Clustering
k-Means algorithm for clustering – groupings of unlabeled data points.
Principal Component Analysis(PCA)-Data
Independent components analysis(ICA)
Anomaly Detection
Recommender System-collaborative filtering algorithm
Case Study– Recommendation Engine for e-commerce/retail chain

6. Natural language Processing

Introduction to natural Language Processing(NLP).
Word Frequency Algorithms for NLP
Sentiment Analysis
Case Study :
Twitter data analysis using NLP

7. Introduction to Time Series Forecasting

Basics of Time Series Analysis and Forecasting ,Method Selection in Forecasting
Moving Average (MA) Forecast Example,Different Components of Time Series Data ,Log Based Differencing, Linear Regression For Detrending

8. ARIMA and Multivariate Time Series Analysis

Introduction to ARIMA Models,ARIMA Model Calculations,Manual ARIMA Parameter Selection,ARIMA with Explanatory Variables
Understanding Multivariate Time Series and Their Structure,Checking for Stationarity and Differencing the MTS
Case Study : Performing Time Series Analysis on Stock Prices

Important Note :
All Machine Learning Algorithms are covered in depth with Real time case studies for each Algorithm
Once 60% of ML is completed ,**Capstone Project will be released for the batch.**

Deep Learning Libraries includes :

PyTorch Caffe2 Microsoft CNTK

mxnet TENSORFLOW Keras

1. Introduction to Deep Learning And Tensor Flow
Neural Network
Understaing Neural Network Model
Installing TensorFlow
Simple Computation ,Contants And Variables
Types of file formats in TensorFlow
Creatting A Graph – Graph Visualization
Creating a Model – Logistic Regression
Model Building using tensor flow
TensorFlow Classification Examples

2. Introduction to Tensor Flow
Installing TensorFlow
Simple Computation ,Contants And Variables
Types of file formats in TensorFlow
Creatting A Graph - Graph Visualization
Creating a Model - Logistic Regression
Model Building
TensorFlow Classification Examples

3.. Understanding Neural Networks With Tensor Flow
Basic Neural Network
Single Hidden Layer Model
Multiple Hidden Layer Model
Backpropagation – Learning Algorithm
and visual representation
Understand Backpropagation – Using Neural
Network Example
TensorBoard
Project on backpropagation

4. Convolutional Neural Network(CNN)
Convolutional Layer Motivation
Convolutional Layer Application
Architecture of a CNN
Pooling Layer Application
Deep CNN
Understanding and Visualizing a CNN

Project : Building a CNN for Image Classification

5. Recurrent Neural Networks (RNN)

Introducing Recurrent Neural Networks
skflow - RNNs in skflow
Application use cases of RNN
Manual Creation of RNN
Long Short-Term memory (LSTM) And GRU theory
Restricted Boltzmann Machine(RBM) And
Autoencoders
Collaborative Filtering with RBM
Dimensionality Reduction with Linear Autoencoder
Project : SPAM Prediction Using RNN

6. Understanding Of TFLearn APIs

Getting Started With TFLearn
High-Level API usage -Layers,
Built-in Operations,
Training and Evaluatiion-
Customizing the Training Process, Visualization APIs
Sequential And Functional Composition
Fine tuning,
Using TensorBoard with TFLearn

Keras

8. Understanding Of Keras APIs

Understanding Keras API for implementing
Neural Networks.
Getting Strated With Keras APIs
Keras Model ,Sequential And Functional Model,shared layers,Composig a Model with
Keras API
BAtch Normalization
Tensor Board With Keras

PYTORCH

9. PyTorch Fundamentals

What is PyTorch ?
Installing Pytorch
Matrices , Torch to NumPy Bridge
Numpy To Torch bridge ,Variables , Gradients
PyTorch Autograd Module
Linear Regression With PyTorch
Logistic Regression With Pytorch
Case Study : Image Classifier using PyTorch

PYTORCH

10. CNN and RNN With PyTorch

CNN in PyTorch
Use PyTorch to build CNN
Build RNN with PyTorch
LSTM in PyTorch
LSTM from CPU to GPU in PyTorch
Case Study : Train a CNN model for classification

Deep Learning Projects

Capstone Project Using Computer vision And Deep Learning

1. Introduction to NLP & Text Analytics

Introduction to Text Analytics
Introduction to NLP
What is Natural Language Processing?
What Can Developers Use NLP Algorithms For?
NLP Libraries
Need of Textual Analytics
Applications of Natural Language Procession
Word Frequency Algorithms for NLP
Sentiment Analysis

2. Text Pre Processing Techniques

Need of Pre-Processing
Various methods to Process the Text data
Tokenization ,Challenges in Tokenization
Stopping ,Stop Word Removal
Stemming - Errors in Stemming
Types of Stemming Algorithms - Table
lookup Approach ,N-Gram Stemmers

3. Distance Algorithms used in Text Analytics

string Similarity
Cosine Similarity Mechanishm - Similarity
between Two text documents
Levenshtein distance - measuring the difference between two sequences
Applications of Levenshtein distance
LCS(Longest Common Sequence) Problems
and solutions ,LCS Algorithms

4. Information Retrieval Systems

Information Retrieval - Precision,Recall,F- score
TF-IDF
KNN for document retrieval
K-Means for document retrieval
Clustering for document retrieval

5. Topic Modelling & Dirchlett Distributions

Introduction to Topic Modelling
Latent Dirchlett Allocation
Adavanced Text Analytics & NLP
Introduction to Natural Language Toolkit
POS Tagging
NER

6. Projects And Case Studies

a. Sentiment analysis for twitter, web articles

b. Movie Review Prediction

c. Summarization of Restaurant Reviews

1. Introduction to Computer Vision

Introduction to computer Vision
Computer Vision overview
Historical Perspective
Introduction to the four Rs of Computer Vision

2. Image Processing

Histogram equalization
Thresholding and Convolution
Sharpening and edge detection
Morphological tranformations
Image pyramid

3. Image Classification and segmentation

Data Driven approach
K-nearest Neighbor
Linear Classification
Contours and segmentation
Contour properties
Circle detection
Line detection
Watershed segmentation

4. OpenCv Library

Opencv Installation And Python API
Drawing shapes ,Image Processing
Image Rotation and Thresholding
Image Filtering - Gaussian Blur,Median Blur
Feature Detection - Canny Edge Detector
Use of Neural Network in CV
Multi-Layer Perceptron

5. Object Detection(SSD)

Single Shot MultiBox Detector, Object Localization
How would you find an object in an image?
The Problem of Scale and Shape
SSD in Tensorflow
Haarcascade - face and eye detection

Project On Computer Vision and Opencv

AI Based Live Face Identification System for Crowd

1. Introduction To GCP Cloud ML Engine

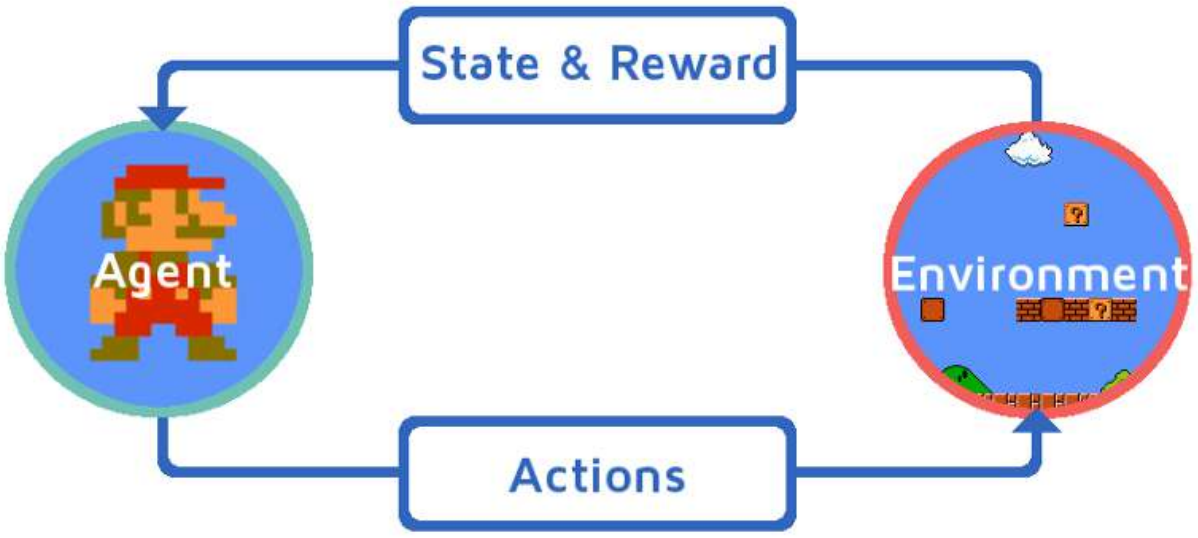
Introduction to Google CloudML Engine
CloudML Engine in Machine Learning WorkFlow
Components of Cloud ML Engine - Google Cloud Platform Console.
gcloud command-line tool and Rest API

2. Training Machine Learning Model

Developing a training application
Packaging a training application
Running and monitoring a training job
Using hyperparameter tuning
Using GPUs for training models in the cloud

3. Deploying Machine Learning Model

Deploying Models ,Understanding training graphs and serving graphs,
Check and adjust model size
Build an optimal prediction graph
Creating input function
creating a model version
Getting Online Prediction



1. Introduction Reinforcement Learning :

What is Reinforcement Learning - Basics
Setting up Environment & Installing OpenAI Gym
OpenAI Gym Basics . Terminology & Environment
Dynamic Programming - Prediction, Control, and Value Approximation

2. OpenAI Gym and Basic RL Techniques: :

Building Blocks of Reinforcement Learning,
OpenAI Gym Tutorial
Random Search,
Markov Decision Processes
Monte Carlo Methods

3. Approximation Methods for Reinforcement Learning :

RBF Networks with CartPole
TD Lambda and Policy Gradient Algorithms
Temporal difference learning
N-Step Methods, TD lambda ,Policy Gradient Methods
Policy Gradient in TensorFlow for CartPole
Mountain Car Continuous using Tensorflow

4. Deep Q-Learning Intro :

Deep Q-Learning Techniques
Deep Q-Learning in Tensorflow for CartPole

Projects and Case Studies :
Solving Taxi Environment
Solving Frozen Lake Environment
Reward Discounting

Real Time Industry Projects

1

Domain - Face Detection

Project -
AI Based Live Face Identification System for Crowd

Artificial intelligence-based facial recognition systems for security purpose . Track down criminals in crowded place like malls ,airport and other crowded public places

2

Domain - Healthcare

DataSet : Samsung

Project -
Analyzing Health Data and tracking human activity

The goal is to breakdown all the data that the Samsung Health app has collected and see what useful insights we can gain by analyzing it.

SAMSUNG

3

Domain - Human Resource

Project -
IBM HR Analytics

Applying analytic processes to the human resource department of an organization in the hope of improving employee performance
This is especially concerning if your business is customer facing, as customers often prefer to interact with familiar people.

IBM

4

Domain - E-Commerce

Project -
Consumer Reviews of Amazon Products

The goal is to analyze Amazon's most successful consumer electronics product launches, discover insights into consumer reviews. What are the most reviewed Amazon products? How do the reviews in the first 90 days after a product launch?

amazon

5

Domain - Automotive

Project-
Self-Driving Car

Simulate a Self-Driving Car with Convolution Neural Networks and Computer Vision. Here you will learn to use essential Computer Vision techniques to identify lane lines on a road

6

Domain - Machine Learning

Project -
Emotions Sensor

Emotions Sensor Data Set Contain Top 23 730 English Words Classified Statistically Using Naive Bayes Algorithm Into 7 Basic Emotion Disgust, Surprise ,Neutral ,Anger ,Sad ,Happy and Fear.
To Detect Emotions In Text or Voice Speech to build a Sentiment Analysis Bot

Real Time Industry Projects

7

Domain - Information Extraction

Project :

Natural Language Procession

Training a machine learning model that classifies a given line of text as belonging to one of the books/Articles. developing a machine learning model (deep learning preferred) for the same.

8

Domain - Travel & Hospitality

DataSet : Airbnb

Project - Airbnb New User Bookings

The goal is to predict which country a new user's first booking destination will be.

By accurately predicting where a new user will book their first travel experience, Airbnb can share more personalized content with their community, decrease the average time to first booking, and better forecast demand.

9

Domain - Voice Recognition

Project -

Speech Emotion Detection Model

Analyse audio samples .Building a CNN Model for Emotion Detection.Training and Testing the Model and Use **Trained CNN Model** on New Audio Samples

10

Domain - Retail

DataSet : Walmart

Project - Walmart Sales Forecasting

This dataset contains the sales for each department from the Walmart dataset containing data of 45 Walmart stores, selected holiday markdown events are also included These markdowns are known to affect sales, but it is challenging to predict which departments are affected and the extent of the impact.

11

Domain - Sentiment Analysis

Project -

Detecting Smiles in your Camera App using CNN

This Project will detect whether an Image contains a Smile with High Accuracy. The goal is to extract high-level features by a well-designed deep convolutional networks (CNN)

12

Domain - Manufacturing

DataSet : Bosch

Project - Bosch Production Line Performance

To predict internal failures using thousands of measurements and tests made for each component along the assembly line. This would enable Bosch to bring quality products at lower costs to the end user.

The goal is to predict which parts will fail quality control

Real Time Industry Projects

13

Domain - Demand/Supply
DataSet : Uber & Rapido
Project-
Forecasting Uber Demand
The goal is to create an interactive dashboard using Tableau
This Tableau Dashboard can be used to get historical insights into a neighborhood,
For example,
see its upcoming forecasted demand,
increase the accuracy,
decrease surge pricing events.

14

Domain - Predictive Analytics
Project -
Predicting Stock Prices Using LSTM
Trying to determine the future value of a company stock or other financial instrument traded on an exchange.Predict the Closing Stock Price of a given Company. Build and train **LSTM** model for Stock Price Prediction
.

15

Domain - Supply Chain
DataSet : Dataco
Project -
Smart Supply Chain for Big Data Analysis
A DataSet of Supply Chains used by the company DataCo Global is used for the analysis. Dataset of Supply Chain , which allows the use of Machine Learning Algorithms and R Software.
It also allows the correlation of Structured Data with Unstructured Data for knowledge generation.

16

Domain - Machine Learning
Project-
Generating Chatbot
In this project we will build a simple retrieval based chatbot based on NLTK library in python, to perform tasks such as automatic summarization, translation, named entity recognition, relationship extraction, sentiment analysis, speech recognition, and topic segmentation.

Contact Us

Call Us
7349-2222-63

Mail Us
contacts@learnbay.co

Visit Us
www.learnbay.co

Whatsapp Us
7349-2222-63

click on the icon to
Follow Us On

Marathahalli Office:
Learnbay,19/1,2nd Floor, Classic Aura(Beside Aricent),Marathahalli - Outer Ring Road,Kadubeesanahalli, Bengaluru, Karnataka

HSR Office:
Learnbay ,147, 5th Main Rd, Rajiv Gandhi Nagar, HSR Sector 7,Near Salarpuria Serenity, Bangalore, Karnataka 560102
INDIA:+917349222263