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# Natural Language Processing Certificate Course

## COURSE OVERVIEW

- Get detailed knowledge of Natural Language Processing
- Implementation Libraries
- Sentiment Analysis
- Spam Mail Detection
- Speech Recognition

## COURSE OBJECTIVE

**At the end of this course,  
you will understand the following**

- Natural Language Processing, Its implementation libraries, and Use cases like "Sentiment Analysis " ,
- "Spam Mail Detection" and speech recognition
- Projects

## SKILL YOU WILL LEARN

- Statistical Analysis Skills
- Machine Learning Concepts and Methods
- Text Representation Techniques
- Algorithm Analysis Skills
- Computer Programming Languages like Python and R, Java
- Strong Problem-Solving skills
- Good Communication Skills
- Text Clustering Skills.

## PROGRAM HIGHLIGHT

- Instructor- Preeti Mam/Pooja Bijlani
- Duration- 13 Hours
- Eligibility- Any graduate with a Science stream
- No. of Modules- 11
- Placement training- Yes
- Language-English
- Shareable certificate- Yes
- Webinar- Yes

## PROGRAM SYLLABUS

### Introduction to NLP

- NLP Introduction
- IDLE Google Colab
- Practical of Basic NLP Code

## INTRODUCTION TO PYTHON

- Python Introduction
- Installation of Anaconda Navigator
- Jupyter Notebook Interface
- How to Open ,save and Rename a file
- Variables and Data Types
- Python Strings
- Loops (Conditional)
- Loops (iterative while)
- Loops(iterative For)
- Python Functions(Built in, Lambda, User defined functions)
- Lists
- Tuples
- Sets
- Dictionaries

## DATA MANIPULATION AND DATA ANALYSIS TOOLS

- Numpy Arrays in Python
- Three Dimensional Arrays Indexing and slicing
- Matrices
- Pandas in Python
- Importing CSV, Excel Files
- Exporting CSV file

## PYTHON-PANDAS

- Pandas Data frames
- Querying Data in Pandas
- Data Aggregation with Pandas Data frames
- Concatenating and appending Data Frames
- Joining Data Frames
- Statistics with Pandas Data Frames
- Handling Missing Data
- Pivot Tables
- Plotting in Pandas

## TEXT PREPROCESSING

- Regular Expression
- Regular Expression Practical
- Basic Text Preprocessing
- Basic Text Preprocessing Practical
- Chat Word Treatment
- Chat Word Treatment Practical
- Tokenization Stemming, Lemmetization
- Tokenization stemming, Lemmetization Practical

## **PART OF SPEECH TAGGING**

- Spacy Library

- Text Representation
- One Hot Encoding

## **MACHINE LEARNING**

- Introduction to Machine Learning

- Using Machine Learning
- Using Keras

## **TEXT CLASSIFICATION**

- ML-Based Classification
- Practical Text Classification

## **PLACEMENT TRAINING**

## **TEXT REPRESENTATION**

- Bag of Words
- TF-IDF

## **Word2VEC DEEP LEARNING**

## **PROJECTS**

- SMS Spam Detection Introduction
- Practical



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