

# **Natural Language Processing (CSE 712)**

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REPORT ON COMPLETED EXTRA COURSES

MSCSE, BRAC UNIVERSITY

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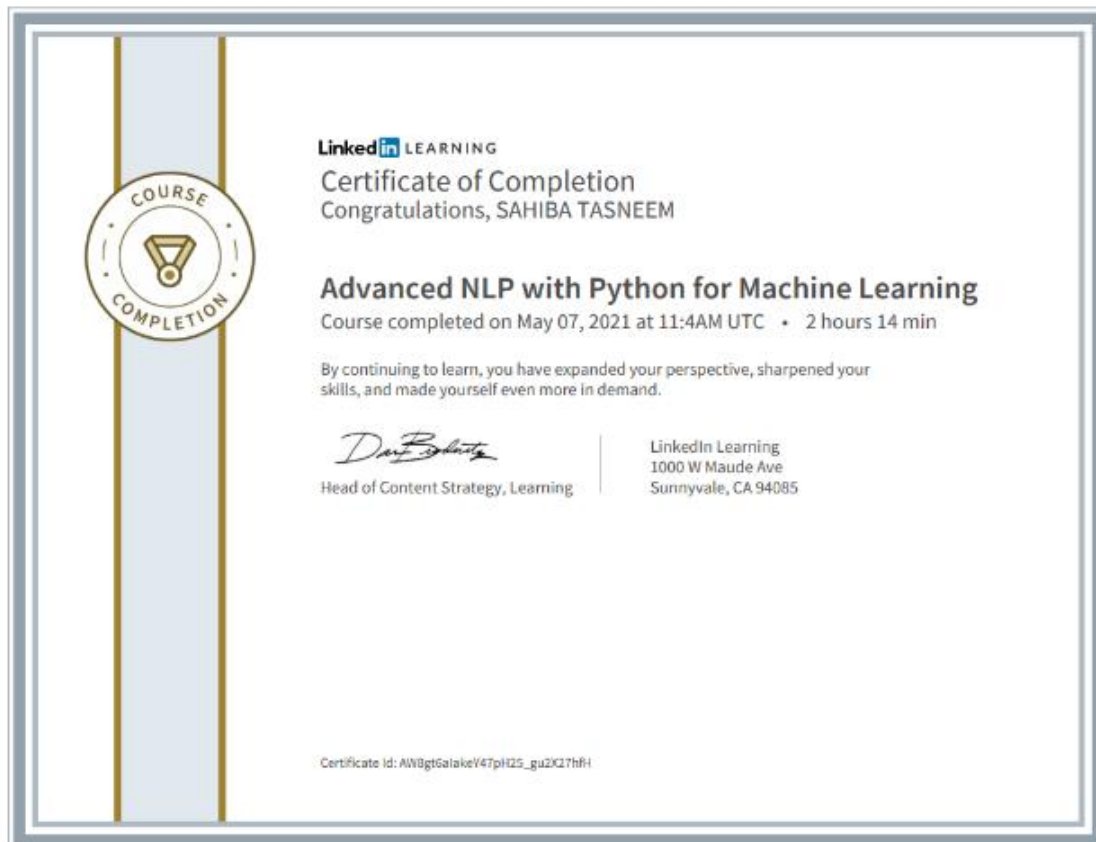
## Course 1: Advanced NLP with Python for Machine Learning

### Summary:

Learned how to translate messy text data into powerful insights using Python. Started with a quick review of foundational NLP concepts, including how to clean text data and build a model on top of vectorized text. Then more complex topics such as word2vec, doc2vec, and recurrent neural networks. To wrap up the course, these concepts a real-world context by applying them to a machine learning problem.

**Skills Covered:** Python (Programming Language), Machine Learning and Natural Language Processing.

### Certificate:



## Course 2: Machine Learning & Deep Learning Fundamentals

### **Summary:**

This course explained fundamentals of deep learning and artificial neural networks for beginners. In addition to covering these concepts, showed how to implement some of the concepts in code using Keras, a neural network API written in Python. Learned about layers in an artificial neural network, activation functions, backpropagation, convolutional neural networks (CNNs), data augmentation, Transfer learning.

**Skills Covered :** Machine Learning, Deep Learning, Keras, ANN, CNN Etc.

### **Link to the Course:**

<https://deeplizard.com/learn/video/dXB-KQYkzNU>

## Course 3: Natural Language Processing – Stanford University

### **Summary:**

This lecture series covers fundamental algorithms and mathematical models for processing natural language, and how these can be used to solve practical problems.

### **Link to the Course:**

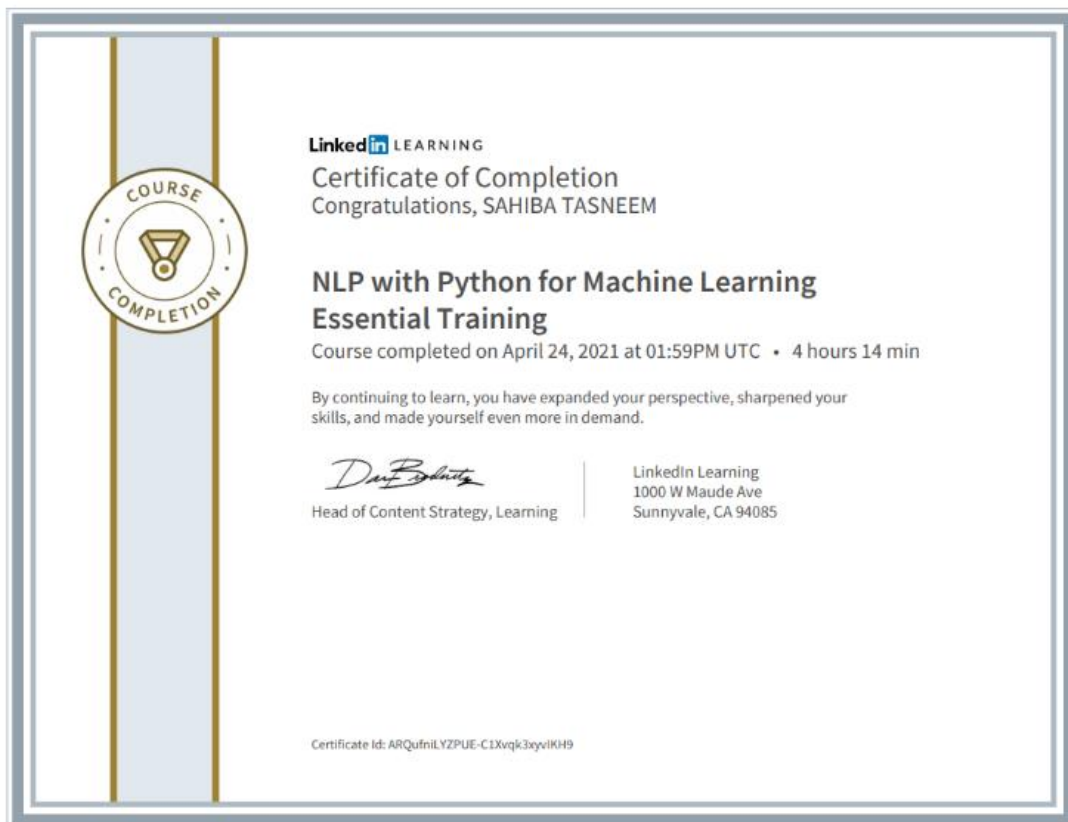
<https://www.youtube.com/playlist?list=PLoROMvody4rOFZnDyrlW3-nI7tMLtmiJZ>

## Course 4: NLP with Python for Machine Learning Essential Training

### Learning Objectives:

- Explain the definition of an NLP.
- Describe the process of tokenizing.
- Identify the purpose of vectorising
- Recognize the outcomes of lemmatizing.
- Summarize the characteristics of TF-IDF.
- Define accuracy in terms of evaluation metrics.
- Recall three benefits of using ensemble methods.

### Certificate:



## Course 5: Natural Language Processing with TensorFlow

### Summary:

In this course, instructor provides a complete guide to understanding NLP using recurrent neural networks (RNNs). Introduced the word encodings and using TensorFlow for tokenization. Then describes the important concept of word embeddings and showed how to use TensorFlow to classify movie reviews and project vectors. The RNNs and long short-term memory (LSTM) were discussed, then showed how to improve the movie review classifier from earlier in the course. The course concludes with a discussion of how you can train RNNs to predict the next word in a sentence, which in turn allowed me to generate some original text.

### Certificate:

