

# NATURE LANGUAGE PROCESSING COURSE CURRICULUM



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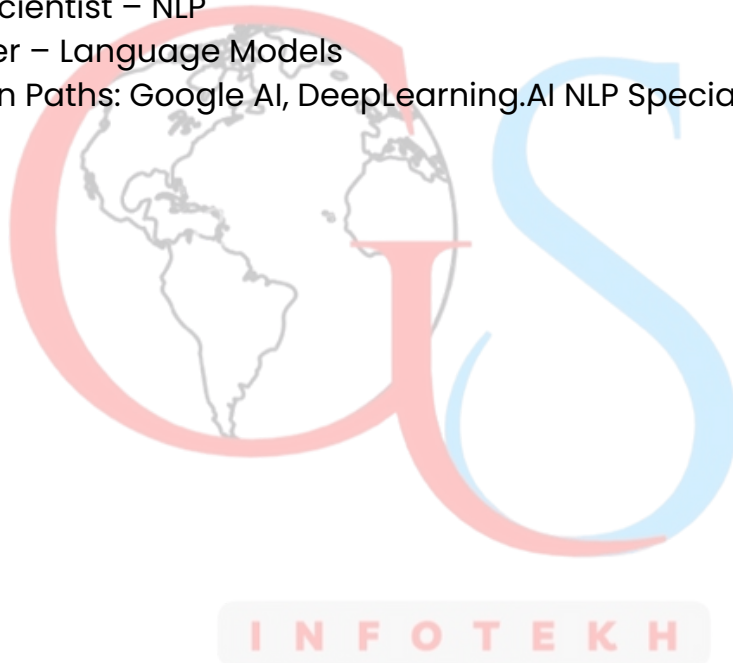
## NATURAL LANGUAGE PROCESSING (NLP) – COURSE CURRICULUM

### ROAD MAP

- Learn how machines understand, interpret, and generate human language
- Ideal for Data Scientists, AI/ML Engineers, and Python Developers
- Real-time applications: Chatbots, Voice Assistants, Translators, Sentiment Analysis

### CAREER PATH

- NLP Engineer
- Machine Learning Engineer
- Research Scientist – NLP
- AI Developer – Language Models
- Certification Paths: Google AI, DeepLearning.AI NLP Specialization, AWS NLP



## COURSE CONTENT

### Module 1: Introduction to NLP

- Overview of NLP and its applications
- History of NLP
- Challenges in NLP

### Module 2: Language Basics for NLP

- Parts of Speech Tagging
- Phrase Structure and Parsing
- Morphology

### Module 3: Text Preprocessing and Feature Extraction

- Text Normalization and Tokenization
- Stop Word Removal and Stemming
- N-grams and Feature Engineering

### Module 4: Sentiment Analysis

- Overview of Sentiment Analysis
- Supervised and Unsupervised Approaches
- Lexicon-Based Approaches

### Module 5: Named Entity Recognition (NER)

- Introduction to Named Entity Recognition
- Rule-Based and Statistical Approaches
- Evaluation Metrics for NER

### Module 6: Information Retrieval and Text Classification

- Introduction to Information Retrieval
- Vector Space Model and Cosine Similarity
- Text Classification using Naive Bayes and SVM

### Module 7: Language Modeling and Seq2Seq Models

- Introduction to Language Modeling
- N-gram and Neural Language Models
- Sequence-to-Sequence Models for NLP

### Module 8: Neural Network Architectures for NLP

- Convolutional Neural Networks (CNNs) for NLP
- Recurrent Neural Networks (RNNs) for NLP
- Attention Mechanisms for NLP

## **Module 9: Text Summarization and Machine Translation**

- Overview of Text Summarization
- Extractive and Abstractive Summarization
- Introduction to Machine Translation

## **Module 10: Advanced Topics in NLP**

- Natural Language Generation
- Dialogue Systems
- Ethics in NLP



# Thank you



**Thank You for Going Through NLP Curriculum**  
**We hope this guide has provided a clear and structured learning path**  
**to strengthen your skills in NLP.**

## ✦ **NEXT STEPS**

- Start practicing with real-world use cases and hands-on exercises
- Build personal or client-based projects for your portfolio
- Keep exploring updates and best practices in the industry
- Join discussions and stay connected with the community

 **Need Help or Guidance?**

**Feel free to contact our course support team:**  
**Course Coordinator**

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