

Course No. 1192

Natural Language Processing (NLP) Training Course

**MACHINE LEARNING & COMPUTER VISION
ARTIFICIAL INTELLIGENCE & APPLICATIONS**

DURATION

5 Days

DELIVERY

Classroom



Course Overview

The Natural Language Processing (NLP) Training Course is a comprehensive professional development program designed to provide executives, managers, AI professionals, data scientists, software engineers, and business specialists with the knowledge and practical skills required to understand, develop, and implement Natural Language Processing solutions in modern organizations. As organizations increasingly rely on artificial intelligence to process vast amounts of textual and spoken information, NLP has become one of the most valuable technologies for automating communication, extracting business intelligence, enhancing customer engagement, and improving operational efficiency.

Government entities, ministries, public sector organizations, banks and financial institutions, oil and gas companies, healthcare providers, manufacturing organizations, educational institutions, telecommunications companies, and multinational corporations generate enormous volumes of documents, reports, emails, customer interactions, contracts, policies, and knowledge assets every day. Natural Language Processing enables these organizations to analyze unstructured text, automate document processing, classify information, extract valuable insights, perform sentiment analysis, support multilingual communication, improve knowledge management, and enhance digital services while accelerating organizational decision-making.

This course focuses on the complete Natural Language Processing lifecycle, including language fundamentals, text preprocessing, tokenization, feature extraction, machine learning techniques, transformer architectures, Large Language Models (LLMs), text classification, named entity recognition, sentiment analysis, machine translation, summarization, conversational AI, enterprise search, information extraction, prompt engineering, responsible AI, governance, cybersecurity, privacy, regulatory compliance, and enterprise implementation best practices. Participants will learn how NLP technologies can solve real business challenges while supporting digital transformation initiatives across multiple industries.

The Natural Language Processing (NLP) Training Course combines interactive workshops, practical exercises, enterprise case studies, and internationally recognized best practices to help participants confidently implement NLP solutions within their organizations. By the end of the course, participants will be able to design NLP-driven business applications, automate language-intensive processes, improve customer experiences, optimize enterprise knowledge management, strengthen business intelligence capabilities, and support innovation through advanced language technologies.

Objectives

- Analyze the principles, techniques, and business applications of Natural Language Processing.
- Develop practical skills for designing and implementing NLP solutions in enterprise environments.
- Evaluate organizational opportunities for applying NLP technologies.
- Apply text preprocessing, feature engineering, and language modeling techniques.
- Design AI-powered solutions that process and understand natural language.
- Improve operational efficiency through intelligent document and text automation.
- Strengthen understanding of responsible AI, governance, cybersecurity, privacy, intellectual property, and regulatory compliance.
- Implement best practices for evaluating, validating, and optimizing NLP models.
- Assess risks, limitations, bias, and ethical considerations associated with NLP systems.
- Align Natural Language Processing initiatives with organizational strategy, innovation, and digital transformation objectives.

Who Should Attend

This course is designed for executives, digital transformation leaders, AI specialists, machine learning engineers, data scientists, software developers, IT managers, business analysts, solution architects, innovation managers, project managers, business intelligence professionals, customer experience managers, knowledge management specialists, consultants, researchers, and decision-makers responsible for enterprise AI and digital transformation initiatives.

The program is equally valuable for professionals working in government entities, ministries, public sector organizations, banks and financial institutions, oil and gas organizations, healthcare providers, manufacturing companies, educational institutions, telecommunications companies, consulting firms, and multinational corporations seeking to leverage language technologies to improve organizational performance and customer engagement.

Professionals responsible for document management, intelligent automation, enterprise search, customer service, digital communication, compliance, governance, analytics, information management, operations improvement, innovation, and AI strategy will gain practical knowledge that can be immediately applied within their organizations.

Learning Outcomes

- By the end of this course, participants will be able to:
- Explain the principles, architecture, and applications of Natural Language Processing.
- Prepare and preprocess textual data for NLP model development.
- Apply NLP techniques for text classification, information extraction, and sentiment analysis.
- Utilize transformer models and Large Language Models for enterprise language applications.
- Develop intelligent document processing and conversational AI solutions.
- Evaluate NLP model performance using appropriate metrics and validation methods.
- Implement responsible AI practices while ensuring privacy, governance, and regulatory compliance.
- Integrate NLP solutions into enterprise business processes and digital platforms.
- Identify strategic opportunities for applying NLP technologies across business functions.
- Develop enterprise implementation roadmaps for scalable and sustainable NLP adoption.

Course Outline

DAY 01

Foundations of Natural Language Processing

- Introduction to Artificial Intelligence and Natural Language Processing
- Language fundamentals and NLP architecture
- Business applications of NLP across industries
- NLP lifecycle and enterprise opportunities

PRACTICAL WORKSHOP ON IDENTIFYING NLP USE CASES

DAY 02

Text Processing and Language Modeling

- Text preprocessing and cleaning techniques
- Tokenization, embeddings, and feature engineering
- Machine learning approaches for NLP

DAY 02 — CONTINUED

- Transformer architectures and Large Language Models

PRACTICAL EXERCISE ON TEXT ANALYSIS AND LANGUAGE MODELING

DAY 03

Advanced NLP Applications

- Text classification and sentiment analysis
- Named Entity Recognition (NER)
- Machine translation and text summarization
- Conversational AI, intelligent assistants, and enterprise search

WORKSHOP ON DEVELOPING NLP SOLUTIONS FOR BUSINESS SCENARIOS

DAY 04

Enterprise NLP Implementation

- Intelligent document processing and information extraction
- Workflow automation using NLP technologies
- Responsible AI, governance, cybersecurity, privacy, intellectual property, and regulatory compliance
- Measuring business value and operational performance

PRACTICAL

Practical workshop on integrating NLP into enterprise systems

DAY 05

Building an Enterprise NLP Strategy

- Future trends in Natural Language Processing
- Scaling NLP capabilities across the organization
- International best practices for enterprise NLP implementation

DAY 05 — CONTINUED

- Organizational change management and continuous innovation

FINAL WORKSHOP

Final workshop involving the development of a comprehensive enterprise Natural Language Processing strategy integrating text analytics, transformer models, Large Language Models, conversational AI, intelligent document processing, enterprise search, prompt engineering, governance, cybersecurity, privacy, regulatory compliance, risk management, performance measurement, organizational readiness, and continuous improvement to maximize operational excellence, knowledge management, innovation, digital transformation, and sustainable organizational success.

Register or Request More Information

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