



**NARSIMHA REDDY
ENGINEERING COLLEGE**
An Autonomous Institution! Affiliated to JNTUH | Approved by AICTE
Accredited by NBA & NAAC with 'A' Grade

4233OE: NATURAL LANGUAGE PROCESSING
(Open Elective- III)

IV-II: CSE(CS)								
Course Code	Category	Hours/Weak			Credits	Max Marks		
4233OE	Open Elective- III	L	T	P	C	CIE	SEE	Total
		3	0	0	3	30	70	100
Contact Classes:45	Tutorial classes:15	Practical classes: Nill				Total Classes:60		
Prerequisites:								

Course Objectives:

- Introduce to some of the problems and solutions of NLP and their relation to linguistics and statistics.

Course Outcomes:

- Show sensitivity to linguistic phenomena and an ability to model the mwith formal grammars.
- Understand and carryout proper experimental methodology for training and evaluating empiricalNLPsystems
- Able to manipulate probabilities, construct statisticalmodelsoverstringsand trees and estimate parameter susing supervised and unsupervised training methods.
- Able todesign,implement,andanalyzeNLPalgorithms
- Able todesign different language modeling Techniques.

UNIT-I

FindingtheStructureofWords: Words and Their Components, Issues and Challenges, MorphologicalModels

FindingtheStructureofDocuments: IntroductionMethods, Complexityofthe Approaches, Performances of the Approaches

UNIT-II

SyntaxAnalysisParsingNaturalLanguage, Tree banks: A Data-Driven Approach to Syntax, Representation of Syntactic Structure, Parsing Algorithms, ModelsforAmbiguityResolutioninParsing,MultilingualIssues

UNIT-III

SemanticParsing: Introduction, SemanticInterpretation, SystemParadigms, for SenseSystems, Software.

UNIT-IV

Predicate-Argument Structure, Meaning Representation Systems, Software.

UNIT-V

Discourse Processing: Cohesion, Reference Resolution, Discourse Cohesion and Structure
Language Modeling: Introduction, N-Gram Models, Language Model Evaluation, Parameter Estimation, Language Model Adaptation, Types of Language Models, Language-Specific Modeling Problems, Multilingual and Crosslingual Language Modeling

TEXTBOOKS:

1. Multilingual Natural Language Processing Applications: From Theory to Practice – Daniel M. Bikel and Imed Zitouni, Pearson Publication
2. Natural Language Processing and Information Retrieval: Tanvir Siddiqui, U.S. Tiwary

REFERENCE BOOK:

1. Speech and Natural Language Processing – Daniel Jurafsky & James H. Martin, Pearson Publications

NRCM

your route to success...

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