19ECS775: NATURAL LANGUAGE PROCESSING

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Unit I **8L**

Introduction – Models -and Algorithms - -Regular Expressions, Finite State Automata, Morphology, Morphological Parsing

Unit II **8L**

N-grams Models of Syntax - Counting Words - Unsmoothed, Smoothing, Entropy, Part of Speech Tagging

Unit III **8L**

Context Free Grammars for English Syntax, Sentence- Level Constructions, Parsing – Top-down – Early Parsing, feature Structures – Probabilistic Context-Free Grammars

Unit IV **8L**

Discourse -Reference Resolution - Text Coherence - Discourse Structure – Coherence, Machine Translation -Transfer Metaphor–Interlingua- Statistical Approaches

Unit V **10L**

Applications of Natural Language Processing- Recent Research in NLP using Deep Learning: Factoid Question Answering, similar question detection, Dialogue topic tracking, Neural Summarization, Smart Reply

Textbook(s):

1. Daniel Jurafsky, James H Martin, “Speech and Language Processing: An introduction to Natural Language Processing, Computational Linguistics and Speech Recognition”, 2/e, Prentice Hall, 2008.

References

1. C. Manning, H. Schutze, “Foundations of Statistical Natural Language Processing”, MIT Press. Cambridge, MA, 1999.