

## Short Term Course in Computational Linguistics

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| 1. Introduction to Computational Linguistics, a brief history of the field.   | 3 hr  |
| 2. <b>Computational Phonology:</b> phonemic structure, phonological rules, speech recognition, speech synthesis   | 9 hr  |
| 3. <b>Computational Morphology:</b> Morphological structure, morphological typology, morph analysers, approaches to morph analysis (Morpheme and paradigm), spell checkers.   | 9 hr  |
| 4. <b>Computational Grammar:</b> POS tagging , Probability for POS tagging, HMM, The Penn Treebank and Brown Corpus, Tagsets for Indian languages, Context free grammars, Parsing (top-down, bottom-up), Treebank, Chunking Corpus Annotation | 12 hr |
| 5. <b>Lexical Semantics:</b> hypernymy, hyponymy, polysemy, synonymy, troponymy etc. Dictionary and WordNet   | 6 hr  |
| 6. <b>Machine Translation:</b> Models (statistical, rule based). (Direct, Transfer and interlingual methods)  | 6 hr  |
| 7. <b>Practicals</b>  | 5 hr  |
| Total: 50 hrs   |       |