Volume 5, Issue 12, December 2015 ISSN: 2277 128X
International Journal of Advanced Research in Computer Science and Software Engineering
Research Paper
Available online at: www.ijarcsse.com

Word Sense Disambiguation: Literature Survey for Indian Languages

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Abstract— Word Sense Disambiguation is challenging task of Natural Language Processing. This paper specifies the previous work for Indian Languages on Word Sense Disambiguation. Based on languages previous work has been defined.

Keywords— Word Sense Disambiguation, Natural Language Processing, Indian Languages, Hindi, Nepali

I. INTRODUCTION

Word Sense Disambiguation is identify the correct sense of ambiguous words with respect to context. Word Sense Disambiguation is challenging Task for Indian Languages. In Foreign Language More Work have been done on Word Sense Disambiguation. In English language almost work have been done on word sense disambiguation.

II. LITERATURE SURVEY

1. HINDI

1. "Word Sense Disambiguation using Selection Restriction(2013"), In this paper define the work for Hindi language using Selection Restriction this approach apply on Hypernymy, Hyponymy, Holonymy, Meronymy, Find Accuracy used this algo is 66.92%[23].
2. "Knowledge Based Approach for Word Sense Disambiguation using Hindi WordNet (2013)", In this paper define the work for Hindi Language using Knowledge base Approach and Wordnet. Accuracy for Hindi language used this approach is 62.5%[2].
3. "Role of Semantic Relations in Hindi Word Sense Disambiguation(2014)" In this paper define the work for Hindi language used lesk algorithm i.e. Overlap based approach. Accuracy used this algo is 70% [3].
4. "Word Sense Disambiguation for Hindi language(2008)" In this Report alse define the work for Hindi language using WSD [1].
5. "Optimized Word Sense Disambiguation in Hindi Using Genetic Algorithm(2013)" This paper define the work for hindi language using Genetic algo in this approach wordnet is also used. performance used this algo is 91.6% [4].
6. "Hindi Word Sense Disambiguation" This paper define the work for hindi language using Wordnet, Performance used this algo is 40-70% [5].
7. "A Comparative Study of SVM and New Lesk Algorithm for Word Sense Disambiguation in Hindi Language(2015)", This paper define the work for Hindi language used Supervised approaches. Support Vector Machine and New Lesk Algorithm both algo under the Supervised approaches [6].
8. "Performance Comparison of Word Sense Disambiguation(WSD) Algorithm on Hindi Language Supporting Search Engines(2011)", This paper define the work for hindi language used Highest Sense Count and Query Expansion for improved the web search results [7].
9. "A Graph Based Approach to Word Sense Disambiguation for Hindi Language(2012)", This paper define the work for Hindi language. According to this paper for Word Sense Disambiguation Wordnet is used. In this paper focus to Disambiguate the Semantic ambiguity [8].
10. "An Investigation to Semi Supervised approach for Hindi Word Sense Disambiguation(2012)", This paper define the work for hindi language. In this Yarowsky's algorithm of Semisupervised used for Hindi WSD. Hindi Corpus used in this approach. Performane used this algo is 61.7% [9].
11. "Neighbors Help: Bilingual Unsupervised WSD using Context(2013)", This paper define the work for Hindi WSD used EM Unsupervised algo [10].

2. KANNADA

1. "Kannada Word Sense Disambiguation Using Decision list", This paper define the work for kannada language used supervised approach Decision list. Corpus is used for Kannada Word Sense Disambiguation [11].

3. MALAYALAM

1. "Word Sense Disambiguation: A Survey", In this paper Approaches is define and Malayalam language work is also define page no.(11-12) [12].

4. MANIPURI

1. "A Decision Tree Based Word Sense Diasambiguation System In Manipuri(2014)". This paper define the work for Manipuri Language used Supervise approach Decision tree. Accuracy used this algo for Manipuri Language is 71.75% [13].

5. NEPALI

1. "Knowledge based Approaches to Nepali Word Sense Disambiguation(2014)", This paper specify the work for Nepali Language using Knowledge base approach. Accuracy for Nouns used this approach is (54%),Accuracy for Adjectives used this approach is (42%).In this paper WSD for Nepali used Conceptual distance and Semantic Graph Distance also define. Accuracy for Nouns used this approach is (62%),Accuracy for adjectives used this approach is (58%) [14].

2. "WORD SENSE DISAMBIGUATION USING WSD SPECIFIC WORDNET OF POLYSEMY WORDS(2014)", This paper define the work for Nepali Polysemy words. Wordnet is used in this algo. Accuracy used this algo is 88.059% [15].

3. "Dictionary Containing Example based Nepali WSD", This paper define the work for Nepali language. In this define the Lesk approach for nouns WSD. In this Nepali wordnet not used for Lesk. Accuracy used this approach is 53.57% [16].

6. PUNJABI

1. "Natural Language Engineering: The study of Word Sense Disambiguation in Punjabi(2011)",This paper define the work for Punjabi language used modified Lesk Algorithm [17].

7. TAMIL

1. "Influence of morphology in word sense disambiguation for Tamil", This paper define the work for Tamil language used Supervised based Approach Decision List [18].

8. URDU

1. "Supervised word sense disambiguation for Urdu using Bayesian Classification", In this paper define the work for Urdu language used Supervised based approach Naïve Bayes classifier precision used this algo is 98.35% and recall=92.17% [19].

9. BENGALI

1. "Automatic classification of Bengali sentences based on sense Definitions present In Bengali Wordnet (2015)", This paper define the work for Bengali language used supervise based approach Naïve bayes Classification. Bengali corpus is using in this approach. Accuracy find 84% for 1747 sentences, Accuracy due to Precision 100% [20].

2. "Word Sense Disambiguation in Bengali applied to Bengali-Hindi Machine Translation", This paper define the Bengali WSD used Unsupervised graph based algo [21].

III. CONCLUSIONS

Using knowledge based approach lot of work have been done but using supervised based approach less work have been done due to Lack of Corpus. Accuracy using Supervised Based Approaches is high so need to do work using Supervised based Approaches for Hindi Language.

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