

A lexicon for Vietnamese language processing

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Abstract: Only very recently have Vietnamese researchers begun to be involved in the domain of Natural Language Processing (NLP). As there does not exist any published work in formal linguistics nor any recognizable standard for Vietnamese word definition and word categories, the fundamental tasks for automatic Vietnamese language processing, such as part-of-speech tagging, parsing, etc., are very difficult tasks for computer scientists. The fact that all necessary linguistic resources have to be built from scratch by each research team is a real obstacle to the development of Vietnamese language processing. The aim of our projects is thus to build a common linguistic database that is freely and easily exploitable for the automatic processing of Vietnamese. In this paper, we present our work on creating a Vietnamese lexicon for NLP applications. We emphasize the standardization aspect of the lexicon representation. We especially propose an extensible set of Vietnamese syntactic descriptions that can be used for tagset definition and morphosyntactic analysis. These descriptors are established in such a way as to be a reference set proposal for Vietnamese in the context of ISO subcommittee TC 37/SC 4 (Language Resource Management). ?? 2007 Springer Science+Business Media B.V.

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References:

1. Cao, X.H., (2000) *Ti?ng Vi?t-m?y V?n Crossed D Sign? ??m, Ng? Ngh?a* (Vietnamese-Some Questions on Phonetics, Syntax and Semantics), , NXB Gi?o d?c H? N?i, Vi??t Nam
2. Dien, D., Hoi, P.P., Hung, N.Q., *Some lexical issues in electronic Vietnamese dictionary* (2003) PAPILLON-2003 Workshop on Multilingual Lexical Databases, , Hokaido University, Japan
3. Dien, D., Kiem, H., *POS-tagger for English-Vietnamese bilingual corpus* (2003) Workshop: Building and Using Parallel Texts: Data Driven Machine Translation and beyond, , Canada: Edmonton
4. Dien, D., Kiem, H., *State of the art of machine translation in Vietnam* (2005) AAMT Journal, Special Issue on MT Summit X
5. Dien, D., Kiem, H., Toan, N.V., *Vietnamese word segmentation* (2001) Proceedings of the Sixth Natural Language Processing Pacific Rim Symposium (NLPRS2001), , Tokyo, Japan
6. Di?p, Q.B., V?n Thung, H., (1999) *Ng? Ph?p Ti?ng Vi?t* (Vietnamese Grammar), 1. , NXB Gi?o d?c H? N?i, Vi??t Nam
7. Erjavec, T., Ide, N., Tufis, D., *Development and assessment of common lexical specifications for six central and eastern European languages* (1998) Proceedings of the First International Conference on Language Resources and Evaluation, , Granada, Spain
8. Ho?ng, P., (2002) *T? Crossed D Signien Ti?ng Vi?t* (Vietnamese Dictionary), , NXB Crossed D sign? Naong Vi??t Nam
9. H?u Sign., C.D., D?i, T.T., Lan Sign. T, C.D., (1998) *Csayti?ng Vi?t* (Basis of Vietnamese), , NXB Gi?o d?c H? N?i, Vi??t Nam
10. Ide, N., Romary, L., *Standards for language resources* (2001) Proceedings of the IRCS Workshop on Linguistic Databases, , Philadelphia, US
11. Ide, N., Romary, L., Abeill??, A., *Encoding syntactic annotation* (2003) Building and Using Parsed Corpora, , Kluwer Academic Publishers Dordrecht, Netherlands
12. Ide, N., V??ronis, J., *MULTEXT: Multilingual text tools and corpora* (1994) Proceedings of the 15th International Conference on Computational Linguistics (COLING 94), , Kyoto, Japan
13. Ide, N., V??ronis, J., Ide, N., V??ronis, J., *Encoding dictionaries* (1995) Text Encoding Initiative: Background and Context, , Kluwer Academic Publishers Dordrecht, Netherlands
14. (2006) *Language Resource Management-Lexical Markup Framework (LMF)*, , ISO 24613, Rev.13 ISO, Geneva, Switzerland
15. Li, C.N., Thompson, S.A., Li, C.N., *Subject and topic: A new typology of language* (1976) Subject and Topic, pp. 457-489. , Academic Press London/New York
16. Nguyen, T.M.H., Romary, L., Vu, X.L., *Une ??tude de cas pour l'??tiquetage morpho-syntaxique de textes Vietnamiens* (2003) Actes de la Conf??rence Francophone Internationale sur le Traitement Automatique des Langues Naturelles (TALN 03), , Batz-sur-mer, France
17. Nguy?n, T.M.H., *Outils et ressources linguistiques pour l'alignement de textes multilingues Fran??ais-Vietnamiens* (2006) Th??se de Doctorat en Informatique, , Universit?? Henri Poincar??, Nancy I, Nancy, France
18. Nguy?n, T.C., (1998) *Ng? Ph?p Ti?ng Vi?t* (Vietnamese Grammar), , NXB Crossed D signai hac Qu??c gia H? N?i, Vi??t Nam
19. Romary, L., Salmon-Alt, S., Francopoulo, G., *Standards going concrete: From LMF to Morphalou* (2004) The 20th International Conference on Computational Linguistics (COLING), , Workshop Enhancing and using electronic dictionaries Geneva, Switzerland

20. (1983) Ng? Ph?p Ti?ng Vi?t (Vietnamese Grammar), , U?ban Khoa h?c X? h?i Vi?t Nam H? N?i, Vi?t Nam: NXB Khoa h?c X? h?i