On

NER for South and South East Asian Languages

Proceedings of the Workshop

12 January 2008 IIIT, Hyderabad, India ©2008 Asian Federation of Natural Language Processing

Introduction

Welcome to the IJCNLP Workshop on Named Entity Recognition for South and South East Asian Languages, a meeting held in conjunction with the Third International Joint Conference on Natural Language Processing at Hyderabad, India. The goal of this workshop is to ascertain the state of the art in Named Entity Recognition (NER) specifically for South and South East Asian (SSEA) languages. This workshop continues the work started in the NLPAI Machine Learning Contest 2007 which was focused on NER for South Asian languages. NER was selected this time for the contest as well as for this workshop because it is one of the fundamental and most important problems in NLP for which systems with good accuracy have not been built so far for SSEA languages. The primary reason for this is that the characteristics of SSEA languages relevant for NER are different in many respects from English, on which a lot of work has been done with a significant amount of success in the last few years. An introductory article further explains the background of and motivation for this workshop. It also presents the results of an experiment on a reasonable baseline and compares the results obtained by the participating teams with the results for this baseline.

The workshop had two tracks: One track for regular research papers on NER for SSEA languages and the second track on the lines of a shared task. The workshop attracted a lot of interest, especially from the South Asian region. Participation from most of the research centers in South Asia working on NER ensured that the workshop met its goal of ascertaining and advancing the state of the art in NER for SSEA languages. Another major achievement was that a good quantity of named entity annotated corpus was created in five South Asian languages. The notable point about this effort was that this was done almost informally on a voluntary basis, without funding. This is an important point in the context of SSEA languages because lack of annotated corpora has held back progress in many areas of NLP so far in this region.

Each paper was reviewed by three reviewers to ensure satisfactory quality of the selected papers. Another major feature of the workshop is that it includes two invited talks by senior researchers working on the NER problem for South Asian languages. The only drawback of the workshop was that there was no paper on any South East Asian language.

We would like to thank the program committee members for all the hard work that they did during the reviewing process. We would also like to thank all the people involved in organizing the IJCNLP conference. We hope that this workshop will help in creating interest in NER for SSEA languages and we will soon be able to achieve results comparable to those for languages like English.

Rajeev Sangal, Dipti Misra Sharma and Anil Kumar Singh (Chairs)

Organizers:

Rajeev Sangal, IIIT, Hyderabad, India Dipti Misra Sharma, IIIT, Hyderabad, Hyderabad, India Anil Kumar Singh, IIIT, Hyderabad, India

Program Committee:

Rajeev Sangal, IIIT, Hyderabad, India

Dekai Wu, The Hong Kong University of Science & Technology, Hong Kong

Ted Pedersen, University of Minnesota, USA

Dipti Misra Sharma, IIIT, Hyderabad, Hyderabad, India

Virach Sornlertlamvanich, TCL, NICT, Thailand

Alexander Gelbukh, Center for Computing Research, National Polytechnic Institute, Mexico

M. Sasikumar, CDAC, Mumbai, India

Sudeshna Sarkar, Indian Institute of Technology, Kharagpur, India

Thierry Poibeau, CNRS, France

Sobha L., AU-KBC, Chennai, India

Tzong-Han Tsai, National Taiwan University, Taiwan

Prasad Pingali, IIIT, Hyderabad, India

Canasai Kreungkrai, NICT, Japan

Manabu Sassano, Yahoo Japan Corporation, Japan

Kavi Narayana Murthy, University of Hyderabad, India

Sivaji Bandyopadhyay, Jadavpur University, Kolkata, India

Anil Kumar Singh, IIIT, Hyderabad, Hyderabad, India

Doaa Samy, Universidad Autnoma de Madrid, Spain

Ratna Sanyal, IIIT, Allahabad, India

V. Sriram, IIIT, Hyderabad, Hyderabad, India

Anagha Kulkarni, Carnegie Mellon University, USA

Soma Paul, IIIT, Hyderabad, Hyderabad, India

Sofia Galicia-Haro, National Autonomous University, Mexico

Grigori Sidorov, National Polytechnic Institute, Mexico

Special Acknowledgment:

Samar Husain, IIIT, Hyderabad, India Harshit Surana, IIIT, Hyderabad, India

Invited Speakers:

Sobha L., AU-KBC, Chennai, India Sivaji Bandyopadhyay, Jadavpur University, Kolkata, India

Table of Contents

Sobha L
Invited Talk: Multilingual Named Entity Recognition Sivaji Bandyopadhyay
Named Entity Recognition for South and South East Asian Languages: Taking Stock Anil Kumar Singh
A Hybrid Named Entity Recognition System for South and South East Asian Languages Sujan Kumar Saha, Sanjay Chatterji, Sandipan Dandapat, Sudeshna Sarkar and Pabitra Mitra . 17
Aggregating Machine Learning and Rule Based Heuristics for Named Entity Recognition Karthik Gali, Harshit Surana, Ashwini Vaidya, Praneeth Shishtla and Dipti Misra Sharma25
Language Independent Named Entity Recognition in Indian Languages Asif Ekbal, Rejwanul Haque, Amitava Das, Venkateswarlu Poka and Sivaji Bandyopadhyay 33
Named Entity Recognition for Telugu P Srikanth and Kavi Narayana Murthy
Bengali Named Entity Recognition Using Support Vector Machine Asif Ekbal and Sivaji Bandyopadhyay
Domain Focused Named Entity Recognizer for Tamil Using Conditional Random Fields Vijayakrishna R and Sobha L
A Character n-gram Based Approach for Improved Recall in Indian Language NER Praneeth M Shishtla, Prasad Pingali and Vasudeva Varma
An Experiment on Automatic Detection of Named Entities in Bangla Bidyut Baran Chaudhuri and Suvankar Bhattacharya
Hybrid Named Entity Recognition System for South and South East Asian Languages Praveen P and Ravi Kiran V
Named Entity Recognition for South Asian Languages Amit Goyal
Named Entity Recognition for Indian Languages Animesh Nayan, B. Ravi Kiran Rao, Pawandeep Singh, Sudip Sanyal and Ratna Sanyal 97
Experiments in Telugu NER: A Conditional Random Field Approach Praneeth M Shishtla, Karthik Gali, Prasad Pingali and Vasudeva Varma



Workshop Program

Saturday, January 12, 2008

	Session 1:
09:00-9:30	Opening Remarks: Named Entity Recognition for South and South East Asian Languages: Taking Stock Anil Kumar Singh
09:30-10:00	Invited Talk: Named Entity Recognition: Different Approaches Sobha L
10:00-10:30	A Hybrid Named Entity Recognition System for South and South East Asian Languages Sujan Kumar Saha, Sanjay Chatterji, Sandipan Dandapat, Sudeshna Sarkar and Pabitra Mitra
10:30-11:00	Break
	Session 2:
11:00-11:30	Invited Talk: Multilingual Named Entity Recognition Sivaji Bandyopadhyay
11:30-12:00	Aggregating Machine Learning and Rule Based Heuristics for Named Entity Recognition Karthik Gali, Harshit Surana, Ashwini Vaidya, Praneeth Shishtla and Dipti Misra Sharma
12:00-12:30	Language Independent Named Entity Recognition in Indian Languages Asif Ekbal, Rejwanul Haque, Amitava Das, Venkateswarlu Poka and Sivaji Bandyopadhyay
12:30-14:00	Lunch
	Session 3:
14:00-14:30	Named Entity Recognition for Telugu P Srikanth and Kavi Narayana Murthy
14:30-15:00	Poster Display and Discussion
	An Experiment on Automatic Detection of Named Entities in Bangla Bidyut Baran Chaudhuri and Suvankar Bhattacharya

Saturday, January 12, 2008 (continued)

Hybrid Named Entity Recognition System for South and South East Asian Languages Praveen P and Ravi Kiran V Named Entity Recognition for South Asian Languages Amit Goyal Named Entity Recognition for Indian Languages Animesh Nayan, B. Ravi Kiran Rao, Pawandeep Singh, Sudip Sanyal and Ratna Sanyal Experiments in Telugu NER: A Conditional Random Field Approach Praneeth M Shishtla, Karthik Gali, Prasad Pingali and Vasudeva Varma 15:30-16:00 **Break Session 4:** 16:00-16:30 Bengali Named Entity Recognition Using Support Vector Machine Asif Ekbal and Sivaji Bandyopadhyay 16:30-17:00 Domain Focused Named Entity Recognizer for Tamil Using Conditional Random Fields Vijayakrishna R and Sobha L 17:00-17:30 A Character n-gram Based Approach for Improved Recall in Indian Language NER Praneeth M Shishtla, Prasad Pingali and Vasudeva Varma 17:30-18:00 **Closing Discussion**