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RESEARCH INTEREST

My main research interests lie in Wikipedia mining, Web mining, Natural Language Processing, and Artificial Intelligence. I have been conducting researches focusing on Wikipedia and the Web. In particular, they are:

- Semantic similarity measurements for multi-lingual short texts using Wikipedia
- Cross-language topic extraction from social media using Wikipedia

I am currently conducting a research on cross-language trend extraction from social media, which enables us to get trends in the world from social media.

In my master thesis, I worked on cross-language topic extraction from social media. In this work, I utilized an existing entity linking technique, which links named entities in an input text to the corresponding entries of knowledgebase such as Wikipedia articles, to capture topics in social media texts as entities (Wikipedia articles), and to bridge the language gaps of topics by using the inter-language links in Wikipedia. However, social media texts contain noisy terms and Wikipedia has articles with various granularities of semantics about a topic, e.g., articles about each time of “Olympic”. They affect the accuracy of entity linking, i.e., the accuracy of topic extraction decreases.

Recently, some studies revealed the relationships between view counts of Wikipedia articles and the other activities, e.g., Google Trends and flu epidemics. It is suggested that the view counts represent the trends or the interests of people at the time and there is such a relationship between Wikipedia and social media. Based on these ideas, I am designing an entity linking technique for topic extraction considering the relationship between Wikipedia and social media.

PUBLICATIONS

International Conference

- T. Nakamura, M. Shirakawa, T. Hara, and S. Nishio, “Semantic Similarity Measurements for Multi-Lingual Short Texts Using Wikipedia,” IEEE/WIC/ACM International Conference on Web Intelligence (WI2014), Vol.2, pp.22-29, Warsaw, Poland (Aug. 2014).

Domestic Journal

- T. Nakamura, M. Shirakawa, T. Hara and S. Nishio, “Language-independent Short Text Similarity Measurements Using the Vector of Wikipedia Articles,” DBSJ Japanese Journal, Vol.12, No.2, pp.7-12 (Oct. 2013).

Domestic Conference

- N. Matsuoka, T. Nakamura, M. Shirakawa, T. Hara and S. Nishio, “An Inspection of Data Structures Feasible for Expression of Twitter Users’ Interests,” 8th Forum on Data Engineering and Information Management (DEIM2016), B3-5, Fukuoka (Feb. 2016).

- T. Nakamura, M. Watanabe, T. Nattapong, K. Urai, T. Tominaga, Y. Nakamura, K. Hosoda and T. Hara, “An Investigation of Group Decision Making Dynamics in Collaborative Web Search,” 8th Forum on Data Engineering and Information Management (DEIM2016), B4-2, Fukuoka (Feb. 2016).
- T. Nakamura, M. Shirakawa, T. Hara and S. Nishio, “Entity Lining for trending terms on Twitter using View Counts of Wikipedia Articles,” 8th Forum on Web and Database (WebDB Forum 2015), Tokyo (Nov. 2015).
- T. Nakamura, M. Shirakawa, T. Hara and S. Nishio, “An Entity Lining Method for Cross-lingual Trend Extraction from Social Media,” 7th Forum on Data Engineering and Information Management (DEIM2015), Fukushima (Mar. 2015).
- T. Nakamura, M. Shirakawa, T. Hara and S. Nishio, “A Prototype System for Cross-language Trend Extraction from Social Media using Wikipedia,” IPJS SIG Technical Report on Database System, Vol. 2014-DBS-160, No. 11, pp. 1-9, Tokyo, (Nov. 2014).
- T. Nakamura, M. Shirakawa, T. Hara and S. Nishio, “Language-independent Short Text Similarity Measurements Using the Vector of Wikipedia Articles,” 4th Social Computing Symposium (SoC2013), Tokyo, (Jun. 2013).

AWARDS

- Student Incentive Award 2015
8th Forum on Web and Database
- Student Incentive Award 2014
160th IPSJ SIG on Database System
- Outstanding Performance Award 2011
Kyushu Section, The Institute of Electronics, Information and Communication Engineers

EDUCATION

- Grad. Sch. of Information Science and Tech., Osaka University April 2015 – Present
Ph.D course, Information Science
Supervisor: Prof. Takahiro HARA
- Grad. Sch. of Information Science and Tech., Osaka University April 2013 – March 2015
Master of Information Science
Supervisor: Prof. Shojiro NISHIO
- Dept. of Engineering, Osaka University April 2011 – March 2013
Bachelor of Engineering

EXPERIENCE

- Research Fellowship for Young Scientists April 2016 – Present
Japan Society for the Promotion of Science
- Funding April 2016 – March 2018 (expected)
Project: Research on Multilingual Topic Extraction from Social Media
1,300,000 YEN, Project Director, Japan Society for the Promotion of Science

- Funding April 2016 – March 2017 (expcteted)
Project: A Convincing Information Recommendation Algorithm for Collaborative Web Search with Decision Making
830,000 YEN, Project Member, Expense for Original Education Research Activity on Program for Leading Graduate Schools, Osaka University
- Funding April 2015 – March 2016
Project: Development of an Artificial Agent for Leading Group Decision Making
860,000 YEN, Project Director, Expense for Original Education Research Activity on Program for Leading Graduate Schools, Osaka University

SKILLS & ABILITIES

- Languages
Japanese (native), English (TOEIC 735, June 2014)
- Programming
Strong background in Python, SQL (daily use in research)
Basic knowledge of C/C++, JavaScript, PHP, Java