Jiangming Liu （刘 江鸣）

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EDUCATION & HONORS

Bachelor, CS, school of Computer and Information Science in Beijing Jiaotong University. Rank: 13/180
Master, CS, school of Computer and Information Science in Beijing Jiaotong University.

The Graduate National Scholarship (6/230)
The Scholarship in Beijing Jiaotong University
The Honorable Mention of the 35th ACM International Collegiate Programming Asia Regional Context
The Third prize of Works of science and technology of School of Computer and Information Technology
The Second place of three-score basketball competition in School of Computer and Information Technology

Verified Certificate of Introduction to Finance authorized by University of Michigan through Coursera

RESEARCH EXPERIENCE

***Visiting student*, Institute of Computing Technology, Chinese Academy of Sciences** 01/2015-present
Research: statistical machine translation

***Visiting student*, Institute of Computing Technology, Chinese Academy of Sciences** 11/2013-12/2014
Project: Japanese Morphology Analysis and dependency analysis (11/2013-05/2014)
- Implemented Japanese morphology analysis tool based on the state-of-art open software
- Implemented Japanese dependency analysis tool based on the state-of-art open software associated with case grammar

***Research Assistant*, Natural Language Process Group, Beijing Jiaotong University** 06/2012-present
Research: Multi-Document Summarization (07/2012 - present)
- Utilized hidden markov topic model and surface features to summarization
- Designed two-stage framework to summarization
- Designed hybrid topic model to summarization: topic model, surface model and topic transition model

Research: Case Dependency-String based Japanese-Chinese Machine Translation (07/2012 – present)
- Designed semantic constraints on traditional statistical machine translation model
- Designed a new semantic tree structure suitable for SMT model
- Filtered un-semantic rules extracted in traditional SMT model
- Supported by national natural science foundation

Project: The Automatic Acquisition of Lexical Semantic Relationship (07/2012 – 11/2012)
- Designed Chinese *is-a* pattern referred to English *is-a* pattern to expand synonym dictionary.
- Computed PageRank values of different words to identify relations for some new words.
- Built a pattern corpus for searching hyponymy.
- Considered characteristics of Chinese words (separate subjects, word formation, word combination and named entity).
- Achieved excellent result in task about extraction of semantic relationship in NLP&CC2012. The result is 0.5653 in F-value of micro average as best and 0.4264 in F-value of macro average (best is 0.5675).
- Submitted paper about the methods of the synonymy and hyponymy extraction.

Research: The Semantic Computation (06/2012-07/2013)
- Utilized the knowledge bases (Chinese HowNet, English WordNet) for lexical semantic similarity computing, especially for Chinese words.
- Proposed a method considering sememe multi-modify relationships and concept hierarchical structure or sub-structure (not only *the length of path* and *depth* but also detailed information including *host-of, domain, agent, modifier* and so on in HowNet) and the error similarity decline from 0.1358 to 0.1021.

***Team leader*, College Innovative Project, Beijing Jiaotong University** 05/2011-06/2012
Project: The main Technology of Public Opinion Analysis in web (05/2011-06/2012)
- Researched on Word Segmentation (by ICTCLAS), Summary (by LDA), Sentiment Analysis, and Subjective Sentence Recognition.
- Utilized probability model, sentiment corpus and knowledge base (HowNet) for Sentiment Analysis.
- Utilized Linear Classifiers (support vector machine, SVM) and reduced dimension of features considering Information Divergence (ID) to improve the speed of classification.
- Utilized weight computing and Latent Dirichlet Allocation Model for summary.
- Built dictionary including ambiguous words and strange symbols to improve Word Segmentation using ICTCALS.

- Designed crawlers in web to get vast of comments on news, production and so on.
- Supported by Nation.

Research: The Analysis of Sentiment in sentence level (10/2011-06/2012)

- Measured sentiment in sentence by three parts (positive, negative, neuter) or by eight parts (expect, joy, love, surprise, anxiety, sorrow, angry and hate) referred to Ren-CECps.
- Utilized word's emotional weight to achieve sentiment in sentence, conditional random fields (CRF) to mark emotional attributes of words in sentence
- Lexical semantic similarity to improve the efficiency of analysis.
- Submitted paper about one of method proposed through completed experiments.

PUBLICATION & PAPER

- Jin'an Xu, **Jiangming Liu**, Yujie Zhang. Word Similarity Computing based on Hybrid Hierarchical Structure by HowNet. Journal of Information Science and Engineering (SCI). 2014
- **Jiangming Liu,** Jin'an Xu, Jun Xie, Yejie Zhang. Case Frame Constraints For Hierarchical Phrase-based Translation: Japanese-Chinese as an Example. *The 3rd conference on Natural Language Processing & Chinese Computing (NLP&CC)*. 2014. Published in LNCS by Springer (EI)
- **Jiangming Liu**, Jin'an Xu, Yujie Zhang. An Approach of Hybrid Hierarchical Structure for Word Similarity Computing by HowNet. *The 6th International Joint Conference on Natural Language Processing (IJCNLP)*, 2013.
- **Jiangming Liu**, Jian Xu, Yujie Zhang. Summarization Based on Hidden Topic Markov Model with Multi-Feature. *the 2st CCF Conference on Natural Language Processing & Chinese Computing (NLP&CC)*. 2013. Publiced in Acta Scientiarum Naturalium Universitatis Pekinensis (ASNUP).
- Ziyu Zhao, Jian Xu, Yujie Zhang, **Jiangming Liu**. Japanese Time Expression Recognition by Combining Rules with Statistics. *The Twelfth China National Conference on Computational Linguistics (CCL 2013)*, 2013. Publiced in Journal of Chinese Information Processing.
- Ziyu Zhao, Jian Xu, Yujie Zhang, **Jiangming Liu**. Japanese Time Expression Recognition and Translation. *the 2st CCF Conference on Natural Language Processing & Chinese Computing (NLP&CC)*. 2013. Publiced in Acta Scientiarum Naturalium Universitatis Pekinensis (ASNUP).
- **Jiangming Liu**, Jian Xu, Yujie Zhang. A Word Similarity Computing Method Based on Concepts Multi-Layer Structure and Sememe Multi-Modify Relationship of HowNet. *The 6th Youth Conference of Computational Linguisties*, 2012, page: 60-68.
- **Jiangming Liu,** Jian Xu, Peihao Wu, Yujie Zhang. Automatic Acquisition of Lexical Semantic Relationship based on Web Resource. *Evaluation Task in the 1st CCF Conference on Natural Language Processing & Chinese Computing*, 2012.

WORK EXPERIENCE

Intern, Institute of Computing Technology, Chinese Academy of Science Beijing 02/2012-08/2012

- Utilized Pattern Matching and Effective Dictionary to develop the speed of Statistic Machine Translation
- Designed Translation Memory to assist Statistic Machine Translation on line

EXTRACURRICULAR ACTIVITIES

Attended 6th Interatioal Joint Conference on Natural Language Processing Nagoya, Japan 10/2013

Attended 1st Conference on Natural Language Processing & Chinese Computing Beijing, China 11/2012

- Achieved the certificate on graduated from ADL32 and gave a report for evaluation tasks.

Attended 6th Youth Conference of Computational Linguistics Shanghai, China 11/2012

***Associate President*, Cisco communication Association** Beijing, China 09/2010-07/2011

COMPUTING SKILLS

Programming language: C, C++, JAVA, Python, Matlab and other database technology
Tools: most toolkit on natural language processing, deep learning.
Code share: https://github.com/LeonCrashCode