

Wenbo Wang

Kno.e.sis Center
Department of Computer Science & Engineering
Wright State University
3640 Colonel Glenn Highway
Dayton, OH 45435
wenbo@knoesis.org
<http://knoesis.wright.edu/students/wenbo/>



Education

- 2008-present** **PhD** student in Computer Science
Wright State University (**GPA: 4.0**)
Advisor: Amit Sheth
- 2005-2008** **Master's** Degree in Computer Science
Beijing University of Posts and Telecommunications, China
Advisor: Xiaofeng Li
- 2001-2005** **Bachelor's** Degree in Computer Science
Central South University, China

Experience

2011.11-present Understanding and Modeling Emotions with Tweets

We aim to study people's emotions at the level of millions of data entries. We plan to collect, analyze, model emotions in social media and eventually predict people's emotions by the texts people write. Some preliminary findings are:

- The most significant (more than 65%) emotion on Nov. 24th is thankfulness.
- The most significant emotion after people get up is thankfulness (7am and 9am); the most significant emotion at night is love.

2011.6-present Unsupervised Sentiment Clue Extraction in Social Media

We think it is more interesting and convincing to tell a user that a movie is "must see" and "rate 5 starts" than to say the overall polarity is 0.85. By applying an optimization model to minimize the inconsistency relations among sentiment clues, we extract target-dependent word and phrase clues as well as corresponding polarities from tweets.

2011.6-2011.9 Discover Fine-grained Emotions in Suicide Note

We constructed a hybrid classifier that is able to discover the sentence-level emotions from 16 categories, e.g., love, pride, abuse, anger, happiness, guilt, etc. We explored a variety of lexical, syntactic and

knowledge-based features. we also proposed an algorithm to automatically extract effective syntactic and lexical patterns from training examples.

2011.6-present Twitris++: 360° Social Media Analysis

Twitris is a Semantic Web application that facilitates understanding of social perceptions by Semantics-based processing of massive amounts of event-centric data. My contributions include::

- Designed and implemented a multi-process program to collect tweets for multiple events, collect user profiles and decode user locations to latitudes and longitudes.
- Improved website response time by optimizing database schema, MySQL database and SQL queries

2010.9-2011.3 Internship in A Web Of Objects (WOO) Project with Yahoo!

The goal of WOO project is to integrate existing high quality knowledge bases, such as DBpedia, Yahoo! Movies, etc. and come with an integrated WOO knowledge base. My job is to disambiguate and integrate movie, actor and director objects in DBpedia and Yahoo! Movies. My contributions include:

- Designed and implemented object disambiguation algorithm in Hadoop environment
- Generic features as well as domain/problem specific features
- Automatically collected training data for supervised machine learning

2008.9-2010.6 Human Performance Cognition Ontology (HPCO) Project at Wright State University

The ultimate goal of HPCO is to better perform knowledge discovery by semantic search and browsing. Domain hierarchy is semi-automatically constructed from Wikipedia and triples are extracted from scientific literature like PubMed. My job is to align predicates in extracted triples with existing predicates in domain ontology and the idea is to automatically discover verb relationships like, synonym/antonym, from seed verb synonyms/antonyms. My contributions include:

- Utilized 100 CPU cores to process large biomedical paper abstracts over Hadoop DFS
- Extracted a restricted set of seed synonym/antonym verbs from Wordnet
- Constructed probability enabled synonym/antonym patterns from POS tagged training corpus
- Applied learned patterns to obtain more synonym/antonym verbs.

2005-2008 Research Assistant at Switching and Intelligent Control Center at Beijing University of Posts and Telecommunications

- Extended OWL-S profile to describe telecom service more precisely
- Implemented a semantic Parlay X Gateway

2004-2005 Research Assistant at Robot Simulation Lab at Central South University

- Proposed and implemented an integrated proactive information update model
- Proposed and implemented opponent strategy modeling

Publication

Wenbo Wang, Lu Chen, Ming Tan, Shaojun Wang, Amit P. Sheth. Discovering Fine-grained Sentiment in Suicide Notes. Biomedical Informatics Insights, 2012 (to appear)

Lu Chen, **Wenbo Wang**, Meenakshi Nagarajan, Shaojun Wang and Amit P. Sheth. Beyond Positive/Negative Classification: Automatic Extraction of Sentiment Clues from Microblogs. Kno.e.sis Center Technical Report 2011

Wenbo Wang, Christopher Thomas, Amit Sheth, Victor Chan. Pattern-Based Synonym and Antonym Extraction. 48th ACM Southeast Conference, ACMSE2010, Oxford Mississippi, April 15-17, 2010

Christopher J. Thomas, **Wenbo Wang**, Pankaj Mehra, Delroy Cameron, Pablo N. Mendes, and Amit P. Sheth. What Goes Around Comes Around – Improving Linked Open Data through On-Demand Model Creation. In: Proceedings of the WebSci10: Extending the Frontiers of Society On-Line, April 26-27th, 2010, Raleigh, NC: US.

Ashutosh Jadhav, **Wenbo Wang**, Raghava Mutharaju, Pramod Anantharam, Vinh Nyugen, Amit P. Sheth, Karthik Gomadam, Meenakshi Nagarajan, and Ajith Ranabahu, *Twitris: Socially Influenced Browsing*, Semantic Web Challenge 2009, demo at 8th International Semantic Web Conference, Oct. 25-29 2009, Washington, DC, USA

Awards

2006 **Second place** in **BEA** IMS Application Innovation and Development Competition

2005 **Eleventh place** in Osaka Qualification for International RoboCup 2005 2D Simulation

2004 **Second prize** of Hunan Province in China Mathematics Contest in Modeling

Computer Skills

Programming Languages: Java, C, Scheme, PHP, XML, HTML, SQL, PIG

Web Technologies: RDF, OWL, SPARQL, XML, HTML

Operating Systems: Windows, Linux/Unix

Selected Courses

Cloud Computing

Operating Systems

Information Retrieval

Computational Complexity

Database Systems and Design

Programming Languages

Semantic Web

Web Information Systems (Audit)

Distributed Computing Principles

Machine Learning I

Optimization Techniques

Machine Learning