

Bowei Zhang

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Software Engineer (NLP | ML)

My research on semantic parsing and Data mining that involve a series of issues : probabilistic graphical models, transfer learning, multitask learning and neural networks. Currently, I am interesting in various approaches to deep learning (GAN, Reinforcement Learning, etc.) and their applications to natural language processing.

</> Projects & Experiences

Present 2018.04	Semi-automatically Extending Mandarin VerbNet Annotations Python > <i>Semi-automatic Labeling</i> : Applying automatic semantic role labeling to improve annotation efficiency and accuracy for Mandarin VerbNet. > <i>Semantic Role Labeling</i> : Automatic annotation method for semantic roles based on sequence labeling. > <i>Self-Attention</i> : Self-attention alleviates the loss of semantic expression in long sentences. Semantic Role Labeling Semi-automatic Labeling Self-Attention
2018.07 2018.06	Shared Task : Text Traceability Technology Evaluation (SMP2018-ETST) Ranking First Python > <i>Paraphrase Detection</i> : Designed a new paraphrase detection algorithm to determine whether a sentence is adapted from another sentence. > <i>Inverted Index</i> : Pre-screening candidate sentence pairs by establishing an inverted index by weighted tf-idf. > <i>Ensemble Learning</i> : Improving the accuracy of paraphrase detection with ensemble learning. Paraphrase Detection Language Model Unsupervised Learning Inverted Index
2018.03 2017.12	Leveraging Paraphrases to Enhance Semantic Dependency Parsing Python > <i>Paraphrase Extraction</i> : Designed a new paraphrase extraction algorithm and building PKU Paraphrase Bank, a Chinese paraphrase corpus consisting of over 290,000 sentence pairs. > <i>Semantic Consistency</i> : Exploring the implicit semantic consistency of paraphrase sentence pairs. > <i>Semi-supervised Learning</i> : Extending the training data set using a semi-supervised learning method; improved semantic parsing accuracy is obtained. Paraphrase Extraction Semantic Consistency Semi-supervised Learning
2017.05 2017.03	Anomaly Detection Tool Based On Extended Latent Dirichlet Allocation (LDA) Java/Js/SQL > <i>Topic Modeling</i> : Constructing an extended multi-view LDA model to establish associations between different categories of features in the same instance. > <i>Anomaly Detection</i> : Five methods of similarity measurement are analyzed and the best method is selected. > <i>Result Presentation</i> : Web-based data visualization. It is possible to provide an overview of the data as a whole and to pay attention to the details of the data as needed. Extended LDA Anomaly Detection Back-end Development Web Design Data Visualization
2015.08 2015.03	Interactive Drum Robot Based On Wearable Computing C++/PCB > <i>Hardware Building</i> : Design the robot body skeleton structure according to the principle of mechanics; > <i>Circuit Design</i> : Drum stick circuit design, Printed Circuit Board(PCB) drawing; > <i>Algorithm Design</i> : Design and implementation of knocking algorithm and intelligent soundtrack algorithm; Wearable Computing Intelligent Instrument Internet of Things Cloud Computing

🎓 Campus Life

- > Chuang Yue Space Of Central South University (first maker space, Star Club of CSU) **Vice President** 2015—2016
On behalf of Central South University to participate in the Hunan Science and Technology Association's first "Chuangke-Hunan" technology products and project exhibition;
- > Intelligent Car Association of Central South University **Vice President** 2014—2015
Organizing 2016 Freescale Smart Cars National Finals; conducting a series of pre-competition training courses and promotional activities;
- > College Football Team (more than 3,600 people in the whole college) **Player** 2013—2015

2013 school-level freshman semi-finals; 2015 school-level football league champion;

Honors & Awards

Merit Student of Peking University (<10%)	2017-2018
Shared Task : Text Traceability Technology Evaluation (SMP2018-ETST) Ranking First	Summer 2018
Outstanding Graduates from Hunan (<3%)	Summer 2017
Excellent Club Cadre of Central South University	Fall 2016
Xinhualian Scholarship of Central South University (<3‰)	Fall 2016
Merit Student of Central South University (<10% , Three consecutive years)	2014–2016
Second Scholarship of Central South University (<10% , Three consecutive years)	2014–2016
The 5th China University Students Intelligent Design Competition First prize	Fall 2015
The 11th University Student Programming Competition of Hunan First prize	Fall 2015
Central South University Football League School Championship	summer 2015
National Encouragement Scholarship (<4%)	Fall 2014
Leimu Scholarship of Central South University (<0.7‰)	Fall 2014