# Ms.Yipei Wang

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## EDUCATION

**Tsinghua University**, Beijing, China
Bachelor of Electrical Engineering, July 2012,

**Carnegie Mellon University**, Pittsburgh, US
Master of Computer Science, (in progress),
**Research fellowship by department** (2 years full tuition fee and stipends)
**Selected coursework**:
Machine Learning (Phd level), Probabilistic Graphical Model, Convex Optimization
Algorithms in Natural Language Processing, Speech Recognition, Software Engineering.

## SKILLS

Programming Language: C++, C#, java, python, matlab, SQL, LATEX
OS: Linux, Windows
Tool: numpy, scipy, scikit-learn, weka

## WORK EXPERIENCE

**Microsoft (Beijing)**
Intern (Feb.2012-Jul.2012)

- Developed the prototype (C#) for prosody classification

- Designed the framework (java) to support semi-supervised learning

- Research of effective heuristic strategies in iterative training and sample selection in multi-view learning

**Carnegie Mellon University**
Research Assistant (Sep.2012 - current)
**Project: TRECVID Multimedia Event Detection Task**
**Project description:** To detect videos with pre-specified events defined by text description and video examples.

**Responsibility**:

- Designed the random forest based pipeline (python) for semantic concept extraction

- Prepared and verified the semantic features on $\tilde{1}50,000$ video clips for the 2013 evaluation

- Proposed semi-automatic framework for expanding the semantic concept vocabulary by unsupervised learning

- Research in fusion of audio-visual semantic concepts and text features (ASR feature)

Advisor: Dr.Florian Metze (Research Assistant Professor)

**Project: Natural language Understanding for Situated Spoken Dialogue System**
Research of leveraging multi-modality feature for co-reference resolution. Designed experiment for statistical test.

Advisor: Dr.Alan Black (Professor), Dr.Ian Lane

## PUBLICATIONS

**Yipei Wang**, Shourabh Rawat, Florian Metze, "Semi-automatic Audio Semantic Concept Discovery for Multimedia Retrieval", *accepted to 2014 IEEE Iternational Conference on Acoustic, Speech and Signal Processing (ICASSP), Florence, Italy*

**Yipei Wang**, Shourabh Rawat, Florian Metze, "Exploring Audio Semantic Concepts for Event-based Video Retrieval", *accepted to 2014 IEEE Iternational Conference on Acoustic, Speech and Signal Processing (ICASSP), Florence, Italy*

Zhen-Zhong Lan, Lu Jiang, Shoou-I Yu, Shourabh Rawat, Yang Cai, Chengqiang Gao, Shicheng Xu, Haoquan Shen, Xuanchong Li, **Yipei Wang**, Wei Tong, Yi Yang, Waito Sze, Susanne Burger, Florian Metze, Rita Singh, Bhiksha Raj, Richard Stern, Teruko Mitamura, Eric Nyberg, and Alex Hauptmann, Informedia E-Lamp@TRECVID 2013 Multimedia Event Detection and Recounting, *TRECVID 2013 Video Retrieval Evaluation workshop*

## SELECTED PROJECTS

**Efficient Optimization Algorithm for Distance Metric Learning**

- Derived different formulations into semi-definite programming framework
- Implemented one large scale metric learning algorithm
- Proposed acceleration strategies based on the special structure of the problem

**Statistical Method for Predicting Influence in Social Media**

- Designing graphical model to predict time-sensitive cascade behavior in large scale social network
- Proposed to modify the Conditional Random Field based method by incorporating prior knowledge from the structure of network
- Proposed to incorporate topic model to capture the information content.

**Repeated Sequence Discovery in Large Audio Stream (Undergraduate Project)**

- Implemented the hash-based algorithm in C++ for effective indexing of multimedia data.
- Designed the system considering both the space cost and efficiency.