

EDUCATION

M.S., Computer Science, **New York University**, NY, USA (2011 to 2013) **GPA: 3.80/4**

B.S., ECE, **Donghua University**, Shanghai, China (2005 to 2009)

PROFESSIONAL EXPERIENCE

IBM Watson. Yorktown Heights, NY USA 03/2016 – Current

- **Staff Software Engineer**

EMRA Project NLP Engineer.

Developed patient problem list identification system with decision tree model. Currently research energy-based graphical models.

IPsoft Inc. New York, USA 11/2013 – 03/2016

- **Lead NLP R&D Engineer**

Built a complex Sentence Similarity computing system using word distributed representation.

Transition-based entity recognition and entity linking to freebase.

Developed noun recognition system with Bayesian graphical models, also a comparison CRFs model.

Feature engineering in dialog act recognizer with SVM model.

~30% accuracy improvement on original dialogue scripts for 82 related topics.

Developed rule based co-referencing recognizing in Semantic Role Understanding System.

Implemented CRFs Named Entity Tagger to AI Interactive system with word embedding.

Implemented an adapter layer for Stanford Parser to accept CoNLL-U format training data.

Developed and optimized IPsoft specific model for Stanford PCFG and shift-reduced Parser.

ByteConsulting Inc. New York, USA 06/2013 – 09/2013

- **Application Developer**

Developed PhoneGap E-Market financial mobile application with REST-ful web service provider.

PROJECT EXPERIENCE

- **Feature Extraction Optimization for Multicore Architecture** **12/2012**

Concurrency Programming: Parallel feature extraction process for NLP. (Java 1.7.0)

Data level parallelism in training process (Thread Pool Model).

Profiling and optimize the CKY for parsing process.

TDD + Unit test case covered.

- **Natural Language Processing: Sentence Sentimental Analysis** **04/2012 to 05/2012**

Supervised Machine Learning Classification System. (Java 1.6.0)

Target: Classify tweet's sentiment extracted from twitter.com into Positive, Negative or Neutral.

Approach: Maximum Entropy classifier (Grammatical Model) + Bigram (Lexical Model backup) for prediction.

Self-defined feature extraction.

F1-Score: 88% (~5000 Training Samples, 10-fold Cross Validation).

Website: <http://www.tweetemotion.com>

Personal Interests

- **Context-aware distributed word representations**

Ex: Given “Apple” with “Apple was founded in CA”, instead returning “banana”, “strawberry”, it tries to return “HTC”, “Samsung”, “Microsoft” etc.

COMPUTER SKILLS

- Java (proficiency), Matlab, Python.
- Natural Language Processing, Machine Learning.
- OO Design Pattern, Agile Development, TDD.
- Git-scm, Subversion, Maven, Jenkins.

GitHub

<https://github.com/maochen>