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 Researcher
EMRA Project NLP Researcher.
Unified NLP resource management repository.
Built ML metrics evaluation system.
Convert raw NLP feature space to vector representation, chi-square feature selection for categorical variables.
Developed patient problem list identification system with decision tree model.
(Ongoing) research Conv NN for Problem List Generation.

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
• Attention based models

- **Word Embedding**
- **Recurrent/LSTM based NLP sequence prediction**

COMPUTER SKILLS

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

GitHub

https://github.com/maochen