

# Bing Liu

INFORMATION EXTRACTION · NATURAL LANGUAGE PROCESSING · MACHINE LEARNING

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*“All human misery stems from the indignation of one’s own incompetence.”*

## My Summary

I am now a second year Ph.D. student at the School of Computer Science and Engineering in the Southeast University, China. My research interests mainly lie in Information Extraction, Natural Language Processing and Machine Learning.

## Education

### PH.D. Candidate in Computer Science and Technology

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING, SOUTHEAST UNIVERSITY, CHINA

- Advisor: Prof. Guilin Qi [gqi@seu.edu.cn]

Nanjing, China

Mar. 2017 - PRESENT

### M.E. in Transportation Planning and Management

SCHOOL OF TRANSPORTATION, SOUTHEAST UNIVERSITY, CHINA

- Advisor: Prof. Wei Wang [wangwei@seu.edu.cn]

Nanjing, China

Sep. 2014 - Dec. 2016

### B.S. in Information and Computing Science

SCHOOL OF MATHEMATICS, SOUTHEAST UNIVERSITY, CHINA

Nanjing, China

Sep. 2010 - Jun. 2014

## Research Experience

### Key Technologies of Person Profiling and Positioning Analysis for Large-scale and Multi-source Data

Southeast University

A RESEARCH PROGRAM OF “NATURAL SCIENCE FOUNDATION OF CHINA”

Jan, 2018 – Present

- Duties: Researching Theories about Entity linking by combining entity mention and knowledge; Joint extraction of multiple properties and relations about person.

### A Toolkit of Natural Language Processing

Southeast University

A COOPERATIVE RESEARCH PROGRAM WITH AN ENTERPRISE

Oct, 2018 – Present

- Duties: Developing a toolkit for entity recognition, entity linking, relation extraction, event extraction and representation learning of knowledge base.

### Technologies of Entity Relation Extraction Based on Deep Learning and Reasoning

Southeast University

A COOPERATIVE RESEARCH PROGRAM WITH AN ENTERPRISE

Nov, 2017 – Apr, 2018

- Duties: Researching Theories about relation extraction based on deep reinforcement learning and rules.

### Coordination Mechanism and Coupling Theory of Multi Mode Public Transport Network

Southeast University

A RESEARCH PROGRAM OF “NATIONAL KEY BASIC RESEARCH PROGRAM OF CHINA”

Sep, 2015 – Sep, 2016

- Duties: Developing a software for graphic analysis of urban traffic network.

### Theories and Key Technologies for Improving the Efficiency of Modern Urban Multimodal Public Transportation System

Southeast University

A RESEARCH PROGRAM OF “NATURAL SCIENCE FOUNDATION OF CHINA”

Sep, 2014 – Sep, 2015

- Duties: Researching and implementing the traffic assignment algorithm.

## Publications & Patents

## Adversarial Discriminative Denoising for Distant Supervision Relation Extraction

Preprint

BING LIU, HUAN GAO, GUILIN QI\*, SHANGFU DUAN, TIANXING WU, MENG WANG

## Relation Extraction based on Reinforcement Learning and Reasoning (in Chinese)

2018 Patent

BING LIU, GUILIN QI

## Adversarial Learning based Denoising Method for Distant Supervision Relation Extraction (in Chinese)

2018 Patent

BING LIU, GUILIN QI

## Main Frame for Integrated Analysis of Comprehensive Transportation System (V1.0)

2016 Software

BING LIU, WEI WANG

- Chinese register No. 2016SR246196

## Graphic Analysis System for Comprehensive Transportation System (V1.0)

2016 Software

BING LIU, WEI WANG

- Chinese register No. 2016SR245507

## Graphic Analysis System for Highway Transportation System (V1.0)

2016 Software

BING LIU, WEI WANG

- Chinese register No. 2016SR246046

## Honors & Awards

Apr. 2013 , Meritorious Winner on the International MCM

top 10%

May. 2012 , First Prize of Southeast University MCM

top 10%

Jun. 2014 , The Ten Most Influential Graduates of Southeast University

10/3000

Jun. 2014 , Outstanding Graduates of Southeast University

3/80

Oct. 2018 , "Chuangwei" Scholarship

2/90

May. 2012 , "Subote" Scholarship

1/80

2010-2014 , Several Scholarships for Excellence in Major Courses

top 5%

## Skills

### Research Interests

Information Extraction, Natural Language Processing, Machine Learning, Deep Learning, Reinforcement Learning

### Programming Languages

Python, C/C++, Java, Javascript, Matlab, LaTeX, Html

### Frameworks or Packages

Tensorflow, Pandas, Scikit-learn, Matplotlib, Qt, Django

### Mathematic Abilities

Calculus, Advanced Algebra, Probability Theory, Statistics, Optimality Theory, Mathematical Modeling, Functions of Complex Variables, Functions of Real Variables (some other math majors)

### Language Skills

English CET6