

# Hao Zhu

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## Education

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### Tsinghua University

*B.E. in Computer Science and Technology Track*

- Member of Natural Language Processing Group
- Advisor: Prof. **Zhiyuan Liu**

**Beijing, China**

*Aug. 2015 - present*

### Tianjin No.1 High School

*High School Student*

- Member of Junior Elite Program for High School Students
- Focus on algorithms and data structures
- Rank: 1/600

**Tianjin, China**

*Aug. 2012 - Aug. 2015*

## Publications

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### Manuscripts.....

#### [1] Iterative Entity Alignment via Joint Knowledge Embeddings

*Hao Zhu, Ruobing Xie, Zhiyuan Liu, Maosong Sun. Submitted to IJCAI 2017*

## Experience

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### Natural Language Processing Group, AI Lab, Tsinghua University

*Undergraduate Research Assistant*

**Beijing, China**

*Jan. 2016 - present*

#### Project 1: Iterative Entity Alignment via Joint Knowledge Embeddings[1].

- Proposed an algorithm to align synonymous entities from different Knowledge Bases automatically.
- Designed a framework to use entity pairs aligned in past iterations to enhance alignment accuracy.
- Experimented on randomly extracted subsets of Freebase 15K and outperformed other state-of-the-art models a lot on entity alignment and knowledge completion tasks.

#### Ongoing Project: Bayesian Relation Extraction

- Adopted generative model to extract relations from sentences, because most of relations in real world only have small amount of instances and bayesian classifier works well with little instances.
- Currently working on extending Variational Autoencoders (VAEs) approach to generate sentences embeddings according to the relation they express.

## Honors and Awards

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**2015: Scholarship (1.7 %)**, Outstanding Freshman Scholarship of Tsinghua University.

**2015: Prize (0.16 %)**, Outstanding Student in Tianjin.

**2014: 3rd Prize (3.5 %)**, National Olympiad in Informatics.

**2014: 1st Prize (1 %)**, National Olympiad in Informatics in Provinces.

## Skills

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**Research Skills:**

- Familiar with state-of-the-art natural language processing, machine learning and statistics.
- Familiar with PyTorch, Tensorflow and Scikit-learn.
- Familiar with necessary Mathematics, such as Measure Theory, Probability Theory, Calculus and Linear Algebra

**Programming Skills:** Proficient in Python and C/C++. Capable of MATLAB, Lua, Java, LATEX, bash, Git and HTML/CSS.