# Changzhi Sun

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## Research Interests

Information Extraction, Entity Relation Extraction, Deep Learning for Natural Language Processing.

## Education

Ph.D. Compute Science, East China Normal University, 2019.

B.S. Compute Science, Anhui Normal University, 2014.

## Publications

*Proceedings*

BiGCNN:Bidirectional Gated Convolutional Neural Network for Chinese Named Entity Recognition
Tianyang Zhao, Haoyan Liu, Qianhui Wu, **Changzhi Sun**, Dongdong Zhan and Zhoujun Li.
DASFAA 2020

Joint Type Inference on Entities and Relations via Graph Convolutional Networks.
**Changzhi Sun**, Yeyun Gong, Yuanbin Wu, Ming Gong, Daxin Jiang, Man Lan, Shiliang Sun and Nan Duan.
ACL 2019, [pdf] [code].

Distantly Supervised Entity Relation Extraction with Adapted Manual Annotations.
**Changzhi Sun**, Yuanbin Wu.
AAAI 2019, [pdf] [code].

Extracting Entities and Relations with Joint Minimum Risk Training.
**Changzhi Sun**, Yuanbin Wu, Man Lan, Shiliang Sun, Wenting Wang, Kuang-Chih Lee, and Kewen Wu.
EMNLP 2018, [pdf] [code].

Large-scale Opinion Relation Extraction with Distantly Supervised Neural Network.
**Changzhi Sun**, Yuanbin Wu, Man Lan, Shiliang Sun and Qi Zhang.
EACL 2017, [pdf] [data].

# Experience

East China Normal University    *Sep. 2014 - Dec. 2019*

Group:        Natural Language Processing Group
Position:     Ph.D candidate
Supervisor:   Yuanbin Wu
Thesis:       Joint Entity Relation Extraction with Deep Learning

Microsoft Research Asia    *Dec. 2018 - May. 2019*

Group:        Natural Language Computing (NLC)
Position:     Intern
Host:         Nan Duan
Project1:     Joint Type Inference on Entities and Relations
Project2:     Knowledge-based Question Classification
Project3:     Title-Keyword Generation

# Projects

*AntNRE (https://github.com/changzhisun/AntNRE)*

AntNRE is a neural entity relation extraction package built on PyTorch. It aims to provide efficient and flexible toolkits for building information extraction systems.

**Modularity**: AntNRE contains modules which can be used as building blocks for various entity relation extraction systems. For example,

Encoders: CNN/RNN-based word representations, CNN/RNN-based sequence modelling, GCN-based node representations.

Entity Models: sequence labelling with RNN + CRF.

Relation Models: feature-enriched PCNN.

**Flexibility**: One could use the package to implement many state-of-the-art entity relation extraction systems. For example,

Joint entity relation extraction model.

Minimum risk training based model.

Multi-task joint entity relation extraction model.

GCN-based joint entity relation extraction model.

**Performance**: Systems built on AntNRE are able to achieve state-of-the-art relation extraction performances on benchmark datasets (ACE05, NYT).

**Future Plan**: More advanced systems will be integrated in the future. For example,

Multi-instance multi-label models.

Deep latent models.

# Academic Activities

Secondary reviewer of ACL(2017), EMNLP(2018), AAAI(2020, 2019), IJCAI(2020, 2019).

Conference PC member: ACL(2020)

# Teaching

TA of Operating System Labs: Fall 2015.