

# Wenjuan HAN

## PERSONAL DATA

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AVAILABILITY: **January, 2020**  
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## EDUCATION

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MAY 2019-Current Visiting Researcher in, **University of California, Los Angeles (UCLA)**  
Advisor: Prof. Ying Nian Wu

JULY 2016-Current DS in COMPUTER SCIENCE, **ShanghaiTech University**  
Joint Supervision of Shanghai Institute of Microsystem And Information Technology  
Advisor: Prof. Kewei Tu  
GPA: 3.51 / 4.0

JULY 2010-2014 BS in OPTICAL INFORMATION SCIENCE AND TECHNOLOGY,  
**Nanjing University of Posts and Telecommunications**  
GPA: 3.44 / 4.0

## PUBLICATIONS

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ACL 2019 | Enhancing Unsupervised Generative Dependency Parser with Contextual Information  
**Wenjuan Han, Yong Jiang, Kewei Tu**  
Proposed an autoencoder framework that combines generative and discriminative approaches in order to tackle the limitation of unrealistic conditional independence assumption often assumed in unsupervised dependency parsing.

EMNLP 2019 | Multilingual Grammar Induction with Continuous Language Identification  
**Wenjuan Han, Ge Wang, Yong Jiang, Kewei Tu**  
Propose a novel universal grammar induction approach that represents language identities with continuous vectors. Without any prior linguistic phylogenetic knowledge, we automatically capture similarity between languages with the vector representations and softly tie the grammar parameters of different languages.

EMNLP 2019 | A Regularization-based Framework for Bilingual Grammar Induction  
*Yong Jiang, Wenjuan Han, Kewei Tu*  
Propose a framework in which the learning process of the grammar model of one language is influenced by knowledge from the model of another language.

NEUROCOMPUTING 2019 | Lexicalized Neural Unsupervised Dependency Parsing  
**Wenjuan Han, Yong Jiang, Kewei Tu**  
Combine the dependency parsing with the rich nonlinear featurization of neural network approaches and lexicalized features.

## PUBLICATIONS

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| IEEE ACCESS 2019 | <b>Latent Variable Autoencoder</b><br><b>Wenjuan Han, Ge Wang, and Kewei Tu</b><br>Applied the proposed model at ACL2019 for two application (the perceptual grouping task and the POS induction task) to verify the flexibility of the autoencoder framework. The flexibility of our framework allows us to apply it to various scenarios where the explicit inference of hidden variables is desired. |
| EMNLP 2017       | <b>Dependency Grammar Induction with Neural Lexicalization and Big Training Data</b><br><b>Wenjuan Han, Yong Jiang, Kewei Tu</b><br>Conducted a systematic study regarding the impact of the degree of lexicalization and the training data size on the accuracy of grammar induction approaches.   |
| EMNLP 2017       | <b>Combining Generative and Discriminative Approaches to Unsupervised Dependency Parsing via Dual Decomposition</b><br><b>Yong Jiang, Wenjuan Han, Kewei Tu</b><br>Proposed a new learning strategy that can learn a generative model and a discriminative model jointly based on the dual decomposition method.  |
| EMNLP 2016       | <b>Unsupervised Neural Dependency Parsing</b><br><b>Yong Jiang, Wenjuan Han, Kewei Tu</b><br>Proposed the first neural probabilistic model to unsupervised dependency parsing.  |
| PATENT 2017      | <b>Optical fiber energy transmission system interlocking protection device</b><br><b>Yong Jiang, Wenjuan Han, Kewei Tu</b><br>Publication number: CN104009451A.   |

## RESEARCH INTERESTS

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My research interest is in natural language processing and machine learning. My current research focuses on the study of probabilistic/neural models and follows two researching paths: (1) grammar-based representation, inference, and unsupervised learning; and (2) the application of unsupervised learning approaches with hidden variables in a variety of artificial intelligence areas including grammar induction, POS induction and perceptual grouping.

## REFEREES

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[Kewei Tu \(supervisor\)](mailto:tukw@shanghaitech.edu.cn) tukw@shanghaitech.edu.cn  
[Shenghua Gao](mailto:gaoshh@shanghaitech.edu.cn) gaoshh@shanghaitech.edu.cn

## SKILLS

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ADVANCED: Python • Java • Pytorch  
INTERMEDIATE: Keras • Tensorflow •  $\text{\LaTeX}$

## EXPERIENCE

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REVIEWER: **ACL 2019 | INLG 2019 | IEEE Access**  
TA: **CS281 Course | Artificial Intelligence | Web Technology**  
PRESIDENT: **Machine Learning Reading Club**