

Accepted Manuscript

Learning Better Discourse Representation for Implicit Discourse
Relation Recognition via Attention Networks

Biao Zhang, Deyi Xiong, Jinsong Su, Min Zhang

PII: S0925-2312(17)31594-1
DOI: [10.1016/j.neucom.2017.09.074](https://doi.org/10.1016/j.neucom.2017.09.074)
Reference: NEUCOM 18957

To appear in: *Neurocomputing*

Received date: 28 June 2017
Revised date: 8 September 2017
Accepted date: 24 September 2017

Please cite this article as: Biao Zhang, Deyi Xiong, Jinsong Su, Min Zhang, Learning Better Discourse Representation for Implicit Discourse Relation Recognition via Attention Networks, *Neurocomputing* (2017), doi: [10.1016/j.neucom.2017.09.074](https://doi.org/10.1016/j.neucom.2017.09.074)



This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Learning Better Discourse Representation for Implicit Discourse Relation Recognition via Attention Networks

Biao Zhang^{a,c}, Deyi Xiong^b, Jinsong Su^{a,c,*}, Min Zhang^b

^aXiamen University, Xiamen, China 361005

^bSoochow University, Suzhou, China 215006

^cFujian Provincial Key Laboratory of Information Processing and Intelligent Control (Minjiang University), Fuzhou 350121, Fujian, China

Abstract

Different words in discourse arguments usually have varying contributions on the recognition of implicit discourse relations. Following this intuition, we propose two attention-based neural networks, namely *inner attention model* and *outer attention model*, to learn better discourse representation by automatically estimating the degrees of relevance of words to discourse relations. The former model only utilizes the information inside discourse arguments, while the latter model builds upon an outside semantic memory to exploit general world knowledge. Both models are capable of assigning more weights to relation-relevant words, and operate in an end-to-end manner. Upon these two models, we further propose a *full attention model* that combines their strengths into a unified framework. Extensive experiments on the PDTB data set show that our model significantly benefits from highlighting relation-relevant words and yields competitive and even better results against several state-of-the-art systems.

Keywords: implicit discourse relation recognition, attention network, memory network, convolutional neural network

1. Introduction

Implicit discourse relation recognition (DRR) is a task of automatically identifying the internal structure and logical relation of a coherent text without discourse connec-

*Corresponding author

Email addresses: zb@stu.xmu.edu.cn (Biao Zhang), dyxiong@suda.edu.cn (Deyi Xiong), jssu@xmu.edu.cn (Jinsong Su), minzhang@suda.edu.cn (Min Zhang)

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات