Information Systems Technology and Design (ISTD)
PhD Oral Defense Public Seminar

SINGAPORE UNIVERSITY OF TECHNOLOGY AND DESIGN

Sentiment Analysis for Short Texts

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Venue: Think Tank 20 (building 2 level 3 room 2.305)

Abstract: Sentiment analysis has significantly attracted research attention both in academia and industry due to the exponential growth of sentimentally big data on the Internet, especially for short text such as product reviews and micro-blogging sites. Unlike formal text, informal text is very short in length, which contains many abbreviations, misspellings and special symbols. These characteristics make sentiment prediction on short texts more challenging. Traditionally, the problem has been handled by using either discrete machine-learning models, which are learnt from manually-defined sparse features, or rule-based approaches, which employ many external lexical resources. However, such methods are time-consuming and inefficient on new types of texts. Neural network models have recently received increased research efforts in most sub-areas of sentiment analysis, giving highly promising results. A main reason is the capability of neural models to automatically learn dense features capturing subtle semantic information from raw inputs, which is difficult to model using traditional discrete features based on words and n-gram patterns. As a result, we aim to apply neural network approaches for three different aspects of sentiment analysis on short texts. First, we release polyglot sentiment lexicons, which are often employed as an important factor to build a sentiment classifier. Second, we design the state-of-the-art target-dependent classifier on Twitter by automatically extracting rich neural features. Third, we construct a neural network structure, which is competitive to cutting-edge methods on both short and long texts. We conclude that low-dense neural features and neural network methods are proficient to cope with the challenges of short texts.

Speaker Bio: Duy Tin Vo is currently a PhD candidate at Singapore University of Technology and Design (SUTD), under the supervision of Prof Yue Zhang. Before joining SUTD, he worked as a lecturer at Cantho University. He received his undergraduate degree on Electronics and Telecommunication Engineering from Cantho University, Vietnam. His research interests include natural language processing, machine learning and artificial intelligence. He has been working on applying machine learning and deep learning techniques to sentiment analysis and text classification.