

Keynote: Natural Language Understanding, Semantic-based Information Retrieval and Knowledge Management

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Abstract

Natural language understanding (NLU) has been taken as one of the core fields, and the hardest one among others, of Artificial Intelligence. As such, it has been considered an impractical technology from the perspective of the real world application. However, the situation surrounding NLU has been changing rapidly. We have witnessed large knowledge resources being constructed, manually or automatically from huge collection of text and structured data bases in Web. We have also witnessed significant amount observation data of user behaviors being accumulated in the forms of query logs, query-click logs, networks among users, etc. These observation data will shed (and actually are shedding) light on how linguistic expressions and their interpretation interact in context. What was considered impractical as research scenario five years ago is now being taken as serious research and application scenario. In this talk, I will discuss how the three fields of natural language understanding, semantic-based information retrieval and knowledge management are being evolved into a single unified research field and how semantics of text and intentions manifested in user queries are to be computationally manipulated.

Bio

Dr. Junichi Tsujii, Microsoft Research Asia

Dr. Junichi Tsujii is a Principal Researcher of Microsoft Research Asia. He joined MSRA in May, 2011. Before joining MSRA, he was Professor of Natural Language Processing in the Department of Computer Science, University of Tokyo and Professor of Text Mining in the School of Computer Science, University of Manchester. His recent research achievements include (1) Deep semantic parsing based on feature forest model, (2) Efficient search algorithms for statistical parsing, (3) Improvement of estimator for maximum entropy model, and (4) Construction of the gold standard corpus (GENIA) for Bio Text Mining.

Dr. Tsujii has received numerous awards such as the IBM Science Award (1989), SEYMF Visiting Professorship in Hong Kong (2000), Daiwa-Adrian Prize (2004), IBM Faculty Award (2005), Achievement Award of Japan Society for Artificial Intelligence (2008), Fellow of Information Processing Society Japan (2010) and the Medal of Honor with Purple Ribbons (2010). He was President of ACL (Association for Computational Linguistics, 2006), President of IAMT (International Association for Machine Translation (2002-2004), and President of AFNLP (Asian Association for Natural Language Processing, 2007).