Natural Language Processing

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Abstract

Natural Language Processing (NLP) is a major area of artificial intelligence research, which in its turn serves as a field of application and interaction of a number of other traditional AI areas. Until recently, the focus in AI applications in NLP was on knowledge representation, logical reasoning, and constraint satisfaction—first applied to semantics and later to the grammar. In the last decade, a dramatic shift in the NLP research has led to the prevalence of very large-scale applications of statistical methods, such as machine learning and data mining. Naturally, this also opened the way to the learning and optimization methods that constitute the core of modern AI, most notably genetic algorithms and neural networks. In this talk I will give an overview of the current trends in NLP and discuss the possible applications of traditional AI techniques and their combination in this fascinating area.

Biography

Alexander Gelbukh was born in Moscow, Russia, in 1962. He received his MSc degree with honors in Mathematics in 1990 from the Moscow State Lomonosov University, Russia, and his PhD degree in Computer Science in 1995 from the All-Russian Institute for Scientific and Technical Information (VINITI), Russia. Since 1997 he is the Head of Natural Language Processing Laboratory of the Center for Computing Research of the National Polytechnic Institute, Mexico. In 2003-2004 he was Distinguished Visiting Professor of Chung-Ang University, Korea. He is member of Mexican Academy of Sciences, National Researcher of Mexico and author of more than 300 publications in computational linguistics and natural language processing.