QA: from Turing Test to Intelligent Information Service

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Abstract

In the history of Artificial Intelligence (AI), Turing Test, a question answering imitation game was proposed to determine whether the computer system has intelligence. It becomes the ultimate goal to answer all the natural language questions for generations of AI researchers. In the past century, AI changed tremendously from its theories to its applications, while with this goal unchanged. Especially in the past 20 years, along with the development of the Internet, computers have the ability to acquire, store and process huge volumes of data, which makes the AI-related techniques deeply involve themselves in the domain of intelligent information processing. On one hand, Question Answering develops in theories, models and methods with the combination of the large scale data processing. On the other hand, the next-generation information service engines are expected to integrate Question Answering as an important part to retrieve and display information, where knowledge is important for information accumulation, understanding and serving. This presentation will present the history and development of the Question Answering, its related key technologies and applications in the background of big data and AI.

QA: 从图灵测试到智能信息服务

图灵实验（Turing Test）可知,回答自然问题的能力有史以来就是衡量计算机系统是否具有智能的基本标准。半个世纪以来，人工智能从理念到内容发生了巨大的变化，尤其是近 20 年来随着互联网产业的发展，大规模数据获取和计算能力的提高使得人工智能的相关技术在智能信息处理领域中得到了充分体现。 一方面，人工智能和大规模数据处理的结合，对于问答系统在理论、模型和方法上都有了质的飞跃和发展，另一方面，在下一代信息服务引擎的发展理念中，问答系统也成为信息获取与展现的重要手段，知识也成为网络信息积累与服务的重要支撑。本报告将介绍问答系统的发展历史与现状，以及相关的关键技术与应用。

About the Speaker

Xiaoyan Zhu, professor, she got bachelor degree at University of Science and Technology Beijing in 1982, master degree at Kobe University in 1987, and Ph. D. degree at Nagoya Institute of Technology, Japan in 1990. She is teaching at Tsinghua University since 1993. She is director of state key lab of intelligent technology and systems, director of Tsinghua-HP Joint research center and the director of Tsinghua-Waterloo Joint research center, Tsinghua University. She is International Research Chair holder of IDRC, Canada, from 2009. She was deputy head of Department of Computer Science and Technology, Tsinghua University from 2004-2007. Her research interests include intelligent information processing, machine learning, natural language processing, query and answering system and bioinformatics. She has authored more than 100 peer-reviewed articles in leading international conferences including SIGKDD, IJCAI, AAAI, ACL, ICDM, CIKM, COLING, and journals including Int. J. Medical Informatics, Bioinformatics, BMC Bioinformatics, Genome Biology and IEEE Trans. on SMC.