Special issue: Leading ICT technologies in the Information Explosion

Guest Editorial

Leading ICT technologies in the Information Explosion

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Millions of humans have been disseminating information through WWW and this amount is explosively increasing. However, a person's ability to digest this information is limited. Therefore, smart information and communication technologies are required to help them effectively and efficiently use this information. This special issue includes some of the more recent advances in ICT technologies that support people in acquiring information and gaining knowledge from the vast amount of disseminated information from the information explosion, and provides a forum for discussing the research directions in this field. This special issue consists of a survey paper, three research papers, and two technical notes that have undergone one or more cycles of anonymous peer reviews and revisions.

The first paper, "Researches on image retrieval and use in information explosion era", by Masashi Inoue, surveys the researches on image retrieval and its utilization from four aspects, i.e., information access and organization technology, computing infrastructure for large-scale image access, human-system interaction, and social issues around image media.

The second paper, "Utilization of external knowledge for personal name disambiguation", by Quang Minh Vu, Atsuhiro Takasu, and Jun Adachi, presents a name disambiguation method for identifying people appearing on Web pages. It discriminates people having the same name using text around the person's name on a Web page. For this purpose, it introduces a recent statistical text model based on latent topics to extract features for the person name disambiguation problem.

The third paper, "Building web page collections efficiently exploiting local surrounding pages", by Yuxin Wang and Keizo Oyama, presents a web page collection framework. This paper focuses on a high-quality page classification method for the framework. To perform high-quality classification, it uses a two-phase classifier: rough filtering and accurate classification. This paper proposes four kinds of page group models that utilize the local surrounding pages for the rough filtering.

The fourth paper, "Academic Linkage: A linkage platform for large volumes of academic information", by Akiko Aizawa, Atsuhiro Takasu, Daiji Fukagawa, Masao Takaku, and Jun Adachi, presents a two-layered architecture for connecting fragmented information by identifying descriptions referring to the same objects in the real world. This paper demonstrates how the proposed architecture works in a researcher-community analysis.

The fifth paper, "Computing the potential lexical productivity of head elements in nominal compounds using the textual corpus", by Kyo Kageura, presents a model for observing the potential lexical productivity of the head elements in nominal compounds. This technical note focuses on the syntagmatic aspects, such as semantic compositionality, possible variations, and lexical cohesiveness.

The sixth paper, "Statistical string similarity model for information linkage", by Atsuhiro Takasu, presents a statistical model for measuring string similarity. This technical note proposes an expectation-maximization parameter estimation algorithm for the proposed string similarity model using a dynamic programming technique.

The guest editors would like to thank all the authors for their contributions. This special issue will provide readers with various perspectives into ICT technologies for the information explosion as well as some recent advances in the related research fields.

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