



Information Retrieval Journal

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Call for Papers

Special Issue on Neural Information Retrieval

Recent advances in the application of neural network models have yielded noteworthy progress in a variety of machine learning and artificial intelligence tasks. In speech recognition and visual recognition benchmarks, neural models showed significant performance improvements. They also have given impetus to promising new applications such as conversational assistants, automatic scene captioning for the visually-impaired, and speech to speech translation. Given the impact of neural models, there is clear anticipation that they will also have a major impact on information retrieval (IR) tasks. However, despite expectations, the area of Neural IR has developed more slowly than areas like natural language processing (NLP). This could be due to fundamental differences between IR and NLP, in tasks and datasets. It could also be because the intersection between those working on neural network models and those working on core IR tasks has been small so far.

The goal of this special issue is to provide an opportunity for researchers working at the intersection of information retrieval and neural networks to examine the challenges of applying neural models (both shallow and deep) to IR tasks, present key breakthroughs, and demonstrate improvements over the current state of the art.

Topics of interest

Topics for this issue include the application of neural network models in IR tasks, including but not limited to:

- Full text document retrieval, passage retrieval, question answering
- Web search, paid search, searching social media, entity search
- Learning to rank combined with neural network based representation learning
- User and task modelling, personalized search and recommendations, diversity
- Query formulation assistance, query recommendation, conversational search
- Multimedia and cross-media retrieval

Topics of interest also includes fundamental modelling challenges faced in such applications, including but not limited to:

- Learning dense representations for long documents
- Dealing with rare queries and rare words
- Modelling text at different granularities (character, word, passage, document)
- Compositionality of vector representations
- Jointly modelling queries, documents, entities, search history, and other structured data or knowledge

Special Issue Editors

Nick Craswell, Microsoft, Bellevue, US

W. Bruce Croft, University of Massachusetts, Amherst, US

Jiafeng Guo, Chinese Academy of Sciences, Beijing, China

Bhaskar Mitra, Microsoft, Cambridge, UK

Maarten de Rijke, University of Amsterdam, Amsterdam, The Netherlands

Important Dates

Initial submission due:	October 15th, 2016
Initial reviewer feedback:	November 21st, 2016
Revised submission due:	December 21st, 2016
Final decision:	February 15th, 2017

Paper Submission

Papers submitted to this special issue for possible publication must be original and must not be under consideration for publication in any other journal or conference. Previously published or accepted conference papers must contain at least 30% new material to be considered for the special issue.

All papers are to be submitted by referring to <http://www.springer.com/10791>. At the beginning of the submission process, under “Article Type”, please select the appropriate special issue.

All manuscripts must be prepared according to the journal publication guidelines which can also be found on the website provided above. Papers will be reviewed following the journal standard review process.

For inquiries on the above please contact **Bhaskar Mitra**, bmitra@microsoft.com.



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