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Summarizing Information Graphics
Textually



Summarizing Information Graphics Textually

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Seniz Demir, Sandra
Carberry and Kathleen F.
McCoy

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Information graphics (such as bar charts and line graphs) play a vital role in many multimodal documents. The majority of information graphics that appear in popular media are intended to convey a message and the graphic designer uses deliberate communicative signals, such as highlighting certain aspects of the graphic, in order to bring that message out. The graphic, whose communicative goal (intended message)

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is often not captured by the document's accompanying text, contributes to the overall purpose of the document and cannot be ignored. This article presents our approach to providing the high-level content of a non-scientific information graphic via a brief textual summary which includes the intended message and the salient features of the graphic. This work brings together insights obtained from empirical studies in order to determine what should be contained in the summaries of this form of non-linguistic input data, and how the information required for realizing the selected content can be extracted from the visual image and the textual components of the graphic. This work also presents a novel bottom-up generation approach to simultaneously construct the discourse and sentence structures of textual summaries by leveraging different discourse related considerations such as the syntactic complexity of realized sentences and clause embeddings. The effectiveness of our work was validated by different evaluation studies.


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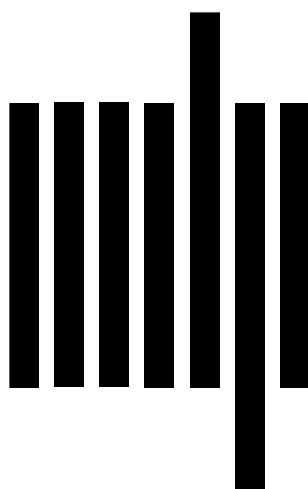
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