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Efficient processing of twig query with compound predicates in fuzzy XML. (English)

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Summary: In order to find all occurrences of a twig pattern in XML documents, a considerable number of twig pattern matching algorithms have been proposed. Previous algorithms mainly focus on the conjunctive twig queries whose sibling edges are only connected by AND connectives. However, meaningful twig queries typically contain arbitrarily specified compound predicates including AND, OR and NOT in practical applications. Moreover, as far as we know, none of these twig matching algorithms have examined the processing of twig queries which contain all the compound predicates over fuzzy XML data. In this paper, we present the first study on evaluating twig queries with AND, OR and NOT connectives in fuzzy XML. We propose a novel holistic twig matching algorithm called LTwig for answering these complex queries. Our algorithm guarantees that the answers can be obtained by scanning the relevant data of the data streams associated with the nodes appearing in the twig pattern only once. A comprehensive set of experiments is finally carried out to demonstrate the effectiveness and efficiency of our proposed approach.

MSC:

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Keywords:

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