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Joint Content-Context Analysis of Scientific Publications: Identifying Opportunities for Collaboration in Cognitive Science

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Abstract

This work studies publications in cognitive science and utilizes mathematical techniques to connect the analysis of the papers' content (abstracts) to the context (citation, journals). We apply topic modeling on the abstracts and community detection algorithms on the citation network, and measure content-context discrepancy to find academic communities that study similar topics but do not cite each other or publish in the same venues. These results show a promising, systematic framework to identify opportunities for scientific collaboration in a highly interdisciplinary and diverse field such as cognitive science.