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Local rough set: A solution to rough data analysis in big data

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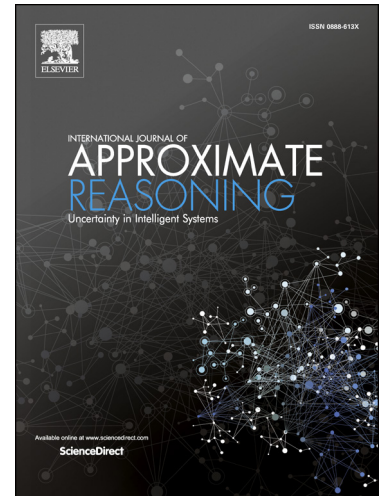
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Highlights

- Owing to high time complexity, the classical rough set is unsuited to rough data analysis in big data.
- Techniques for rough data analysis in big data using a semi-supervised approach, with limited labeled data, are desirable.
- The challenges to classical rough set theory can be summarized with three issues: limited labeled property of big data, computational inefficiency and over-fitting in attribute reduction.
- To address these three challenges, we introduce a theoretic framework called local rough set, and develop a series of corresponding concept approximation and attribute reduction algorithms with linear time complexity.
- This work could provide a solution to rough data analysis in big data

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