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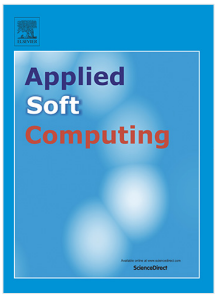

Automatically discovering clusters of algorithm and problem instance behaviors as well as their causes from experimental data, algorithm setups, and instance features

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***Highlights (for review)**

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1. We propose and implement a method which can not just automatically find different groups of optimization algorithm behavior and problem instance hardness, but also discover potential reasons for observed behavioral differences between the group.

2. Our work makes it possible to automate a significant part of the actual research work in the field of optimization, namely the evaluation of experiments from low-level information, such as drawing diagrams, to high-level information (see Highlight 1). It goes far beyond the related works known to us.

3. Our work is applicable to (almost) all kinds of single-objective optimization problems and to almost all kinds of algorithms from optimization, machine learning, and operations research (i.e., those improving approximation quality over time) implemented in arbitary programming langues.

4. Our work is provided as a ready-to-use open source implementation published on GitHub and as Docker container. All data used in our experiments is provided on GitHub as well.

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