Patterns Within Random Permutations: Some Open (and Recently Closed) Questions
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Abstract:

Permutations are a fundamental object across all areas of mathematics, and their wide variety of equivalent definitions endows them with a rich and complex structure. By viewing smaller permutations as patterns within larger ones, the set of all permutations becomes a partially ordered set which has become a major topic of research in the last half-century. Starting with a an overview of the area, this talk provides an accessible introduction to the area of permutation patterns (with plenty of pictures and some hand-waving). In particular, we explore several longstanding conjectures, some recently opened questions, and a new result on patterns within random permutations.