

# Worst-Case Optimal Join Algorithms

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## Abstract

Join is the most important operator in relational databases, and remains the most expensive one despite years of research and engineering efforts. Following the ground-breaking work of Atserias, Grohe, and Marx in 2008, worst-case optimal join algorithms have been discovered, which has led to not only a series of beautiful theoretical results, but also new database systems based on drastically different query evaluation techniques. In this talk, I will present an overview of this topic, including algorithms in various computation models (sequential and parallel), variants of the problem (full, Boolean, and counting), and approximate solutions.

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