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40 Years in Designs: Celebrating the Life and Achievements of
Professor Gholamreza B. Khosrovshahi*

The Minimum Dominating Set and Set Cover in Distributed and Streaming Models

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In this talk, I will cover algorithms for the Minimum Dominating Set and Set Cover problems in three settings: classical (sequential), distributed, and streaming. I will start with greedy approaches, discussing their approximation guarantees and hardness results, and then move on to techniques based on the primaldual method.

Next, I will present new combinatorial algorithms for bounded-arboricity graphs in the distributed model. Finally, I will discuss the main challenges and open questions in addressing these problems.