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### A New Multi-objective Mathematical Model for the High-level Synthesis of Integrated Circuits

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## Highlights

- We develop a biobjective MILP model for HLS design including multiplexer overhead.
- Unit selection, operation assignment, scheduling, sharing decisions are made together.
- The model is solved exactly to obtain the optimal Pareto frontier.
- Including multiplexers improve the solution in terms of minimum latency and area.

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