An improved multi-objective evolutionary algorithm for computation offloading in the multi-cloudlet environment

Li LIU, Yuanyuan DU

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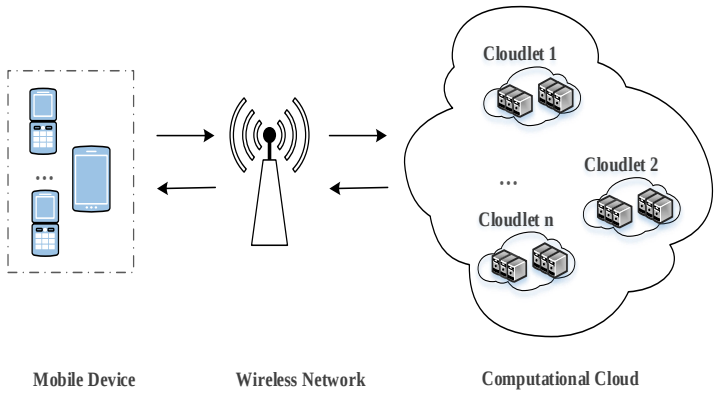
Problems & Ideas

- Problems
  - In the multi-cloudlet environment, as the number of tasks increases, how to perform computational offloading to optimize multiple objectives while satisfying users' requirements remains a challenge.



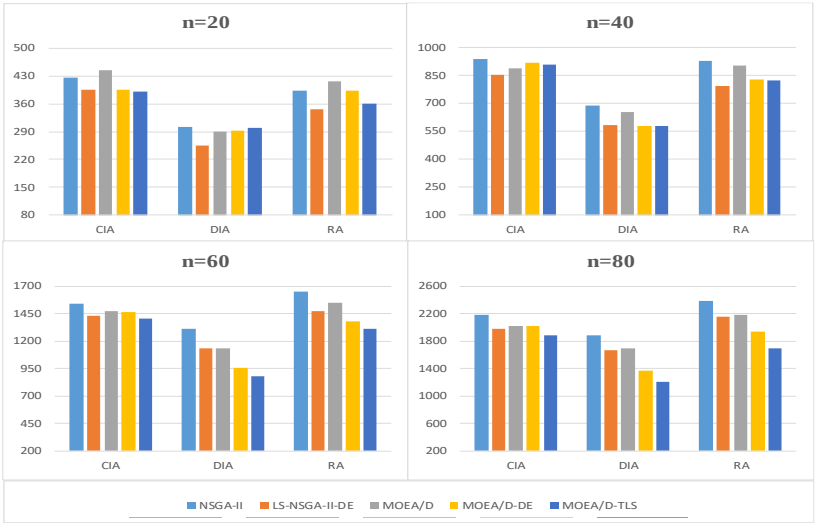
Multi-cloudlet architecture.

- Ideas
  - An improved evolutionary algorithm MOEA/D-TLS is proposed to minimize both energy consumption and price while meeting the time constraint.
  - The proposed algorithm firstly introduces a differential evolution operator to enhance the global search ability, and then designs a three-stage local search strategy to improve the local search performance.

Main Contributions

Conclusion: The proposed algorithm MOEA/D-TLS in this paper achieves better performance on the optimization of total energy consumption and total price while meeting the time constraint while the other compared algorithms could not perform easily.

- **Energy(mj)**



- **Price(cent)**