



Energy-Efficient Mobile-Edge Computation Offloading for Shared-data Featured Applications

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The *Mobile Edge Computing (MEC)* is proposed to support the unprecedented growth of latency-critical applications (e.g. VR, AR), enabling computation offloading from mobile users to edge servers.

The intrinsic collaborative properties of the input data for augmented reality (AR) applications:

- Multiple mobile devices share parts of computing input/output in common, thus making it possible for further reducing computing latency utilising edge computing.



The joint optimization of computation offloading with communications resources proves to improve the performance of fog computing.

- The mobile users' energy consumption minimization problem is formulated as a convex problem. The optimal solutions are obtained by classical Lagrangian duality method.
- More energy will be saved when the percentage of shared data gets higher for proposed offloading scheme compared to the scheme without considering the existence of shared data.

