A Dynamic Cost Model to Minimize Energy Consumption and Processing Time for IoT Tasks in a Mobile Edge Computing Environment

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***Abstract*—The rapid growth of devices, e.g., smartphones, wearables, tablets, and other sensors connected to the Internet, has been leading to a complex problem regarding how to optimize energy consumption for data-intensive processing. Most applications tend to offload task processing to remote servers, usually to Data Centers in the Cloud, geographically located away from the end-user and the IoT device, increasing communication latency and energy costs. In such a context, this work proposes a dynamic cost model to minimize energy consumption and task processing time for IoT scenarios in a Mobile Edge Computing environments. The solution presents a Time and Energy Minimization Scheduler (TEMS) that solves the cost model, validated through simulation. Results reveal a reduction in energy consumption by up to 51.61% as well as 86.65% in tasks completion time.**

***Index Terms*—Mobile Edge Computing, Internet Of Things, Cost Minimization Model, Energy Consumption, Scheduling Algorithm.**

DISCLAIMER

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