# Computation Offloading and Activation of Mobile Edge Computing Servers: A Minority Game

# ABSTRACT

With the ever-increasing popularity of resourceintensive mobile applications, Mobile Edge Computing (MEC), e.g., offloading computationally expensive tasks to the cellular edge, has become a prominent technology for the next generation wireless networks. Despite its great performance in terms of delay and energy, MEC suffers from restricted power allowance and computational capability of the edge nodes. Therefore, it is imperative to develop distributed mechanisms for computation offloading, so that not only the computational servers are utilized at their best capacity, but also the users' latency constraints are fulfilled. In this letter, by using the theory of Minority Games, we develop a novel distributed server activation mechanism for computation offloading. Our scheme guarantees energy-efficient activation of servers as well as satisfaction of users' quality-ofexperience (QoE) requirements in terms of latency.

# EXISTING SYSTEM

- We develop a novel approach for efficient mode selection (or activation) at the servers' side.
- The designed mode selection mechanism guarantees a minimal server activation to ensure energy efficiency, while meeting the users' delay constraints.
- Moreover, it is distributed, and does not require any prior information at the servers' side.

# PROPOSED SYSTEM

- A Minority game (MG) can model the interaction among a large number of players competing for limited shared resources.
- In each offloading period, the servers decide between the two actions, i.e., being active or inactive, denoted by 1 and 0, respectively.
- The advantages of MG include simple implementation, low overhead, and scalability to large set of players, which are of vital importance in a dense wireless network.

# SYSTEM REQUIREMENTS

## HARDWARE REQUIREMENTS

- Processor - Intel core i3
- RAM - 2B
- Hard Disk - 20 GB

## SOFTWARE REQUIREMENTS

- Operating System : LINUX
- Tool : Network Simulator-2
- Front End : OTCL (Object Oriented Tool Command Language)

# REFERENCE


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