

**Socially Aware Caching Strategy
in Device to Device
Communication Networks**

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ABSTRACT

- In this paper, we consider the factor of social relationship in the deployment of D2D content caching.
- First, we apply stochastic geometry theory to derive an analytical expression of downloading performance for the D2D caching network.
- Specifically, a social relationship model with respect to the physical distance is adopted in our analysis to obtain the average download delay performance using random and deterministic caching strategies.

EXISTING SYSTEM

- As a response to the challenge of data traffic explosion in wireless networks, content caching in device-to-device communication networks has emerged as a promising solution.
- However, in practical deployment, D2D content caching has its own problems.
- In particular, not all of the user devices are willing to share the content with others due to numerous concerns such as security, battery life, and social relationship.

PROPOSED SYSTEM

- Second, to achieve a better performance in more practical and specific scenarios, we develop a socially aware distributed caching strategy based on a decentralized learning automaton, to optimize the cache placement operation in D2D networks.
- Different from the existing caching schemes, the proposed algorithm not only considers the file request probability and the closeness of devices as measured by their physical distance but also takes into account the social relationship between D2D users.

HARDWARE REQUIREMENTS

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

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SOFTWARE REQUIREMENTS

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

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