Knowledge Centric Networking: Challenges and Opportunities

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ABSTRACT

In the creation of a smart future information society, Internet of Things (IoT) and Content Centric Networking (CCN) break two key barriers for both the front-end sensing and back-end networking. However, we still observe the missing piece of the research that dominates the current design, i.e., lacking of the knowledge penetrated into both sensing and networking to glue them holistically. In this talk, I will introduce and discuss a new networking paradigm, called Knowledge Centric Networking (KCN), as a promising solution. The key insight of KCN is to leverage emerging machine learning or deep learning techniques to create knowledge for networking system designs, and extract knowledge from collected data to facilitate enhanced system intelligence and interactivity, improved quality of service, communication with better controllability, and lower cost. This talk presents the KCN design rationale, the KCN benefits and also the potential research opportunities.

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