PhD Seminar 1

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Privacy Issues in Multi-access Edge Computing

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Abstract:

Multi-access Edge Computing (MEC) is a nascent and promising paradigm, proposed by the European Telecommunications Standards Institute (ETSI), which offers cloud-computing capabilities and an IT service environment for developing applications and providing content at the edge of the network. MEC enables computation-intensive and delay-sensitive applications, such as Virtual Reality (VR), Augmented Reality (AR), Mixed Reality (MR), and Ultra High Definition (UHD) video streaming, at the resource-limited mobile devices. This is achieved by empowering them to offload their heavy computation tasks to nearby MEC servers through wireless communications, thanks to MEC's characteristics of ultra-low latency and high bandwidth in addition to real-time access to radio networks.

Since its introduction, MEC has drawn a great deal of attention from academia, and the related research ranges over a variety of topics, including but not limited to decision making in task offloading and caching, scheduling and resource allocation, services migration, security, and privacy. In this talk, our focus is the particularly important factor needed to be carefully considered in the realization of MEC deployments, i.e., the privacy issues, which, however, are largely ignored and can cause severe consequences if they are not properly addressed. In particular, we will briefly summarize the literature on privacy risks reported in task offloading and caching in MEC, followed by a discussion on potential methods in protecting privacy for these scenarios.