

Cross-Layer Infrastructure Optimization for Data-Centric Applications

Thursday, 7 November 2019 09:41 (7 minutes)

Modern data-centric applications are among the major drives for next generation Internet and network infrastructure innovation. These applications, often founded in broad societal challenges such as overpopulation and diminishing natural resources, cut across many different scientific domains and require collection, transfer, and processing capabilities on data from broad range of sources.

These applications can only be effectively enabled however in the presence of a supporting research infrastructure, which should provide the necessary tools for searching, accessing and integrating data and software for different workflows within scientists research activities. Recent paradigm shift towards data centric approaches further motivated the development of advanced network and computing technologies, e.g., SDN (software defined networking), ICN (Information-Centric Networking) and 5G, as well as the Cloud technologies in Edge Cloud and machine learning (ML). In the following, we use our recent research experience in supporting environmental research as an example to help lay out our collaborative research agenda.

(download PDF for full text)

Primary author: XIN, Yufeng (RENCI)

Presenter: XIN, Yufeng (RENCI)

Session Classification: Distributed Networked Infrastructure - Part I