

Predictive Quality of Service in Industrial Internet of Things

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Abstract



Predictive Quality of Service (PQoS) aims at predicting the behavior of the network at short (milliseconds, seconds) or long (minutes) time frame in advance, in order to enable proactive adaptation of the applications running over the network. PQoS includes techniques that predict the behavior of one or more key components of the network: channel, medium access, scheduling, and/or higher layer aspects. This talk will describe the origins of PQoS in vehicular communications, before discussing its application to Industrial IoT

(IIoT). In particular, representative current and future IIoT use cases will be discussed that benefit from PQoS and create challenges for the RAN and core network design. Through these use cases, PQoS is shown as a powerful technology that is poised to be a game changer for IIoT in 6G. The talk will conclude with some pertinent open questions towards making PQoS in IIoT an integral part of the 6G network.