Machine Learning for Resource Management in Access Networks

Abstract:

We present a fixed wireless access solution that combines multiple radio technologies operating in the unlicensed sub-6 and 60GHz bands, in order to deliver Gigabit broadband access services in settings where end-to-end fibre infrastructure is still missing.

Theory, backed by simulation, suggests that the addition of machine learning to the radio resource management will significantly improve the performance and efficiency of such access networks. In practice, the possibilities to use machine learning in today's systems may still be limited, for instance, due to limited accessibility of system parameters or user data.

Using our fixed wireless access solution as an example, we discuss the possibilities to leverage machine learning in today's real-world systems, which utilize current off-the-shelf equipment.