An Enhanced Cooperative MAC Protocol Based on Perceptron Training

By:

Peijian Ju, UNB Faculty of Computer Science PhD student

Cooperation among wireless nodes at the medium access control (MAC) layer has attracted a lot of research attention in recent years. Most of existing cooperative MAC protocols focus on the scenarios with static helpers (relay nodes). However, an optimal helper should not only support a high transmission rate but also have a low mobility. It can be a challenging problem to distinguish such an optimal helper when there are moving helpers of various mobility.

In this talk, we introduce a cooperative MAC protocol by means of perceptron training, referred to as PTCoopMAC. PTCoopMAC selects the optimal helper depending on the achievable data rate as well as the prediction on whether a helper is reliable. The simulations results well demonstrate the throughput improvement of PTCoopMAC and its robustness to high mobility of helper nodes.