Machine Learning for Networking

Wi-Fi performance

Session 4 - Example

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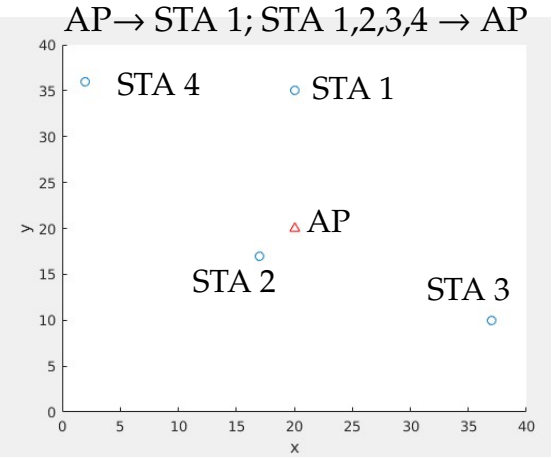
Exercise

- Example 4 (same Wi-Fi network as in Example 3)
  - Average number of transmissions
  - Slot probabilities: idle, successful, collision
  - Different packet sizes
  - Packet ‘aggregation’
- Download ExampleLecture4.zip.
- Execute ExampleLecture4.*m*
  - *What ‘results’ do you get?*



Exercise

- Given CWmax=2*(CWmin+1)-1) test: CWmin = 7, 15 and 31, and R = 1, 4 and 7.
  - Explain what are the effect of those parameters in terms of
    - Average number of transmissions per packet
    - Transmission probability, failure probability and slot probabilities
- For CWmax = CWmin = 63, and R=7, change the size the packet size transmitted by the AP (i.e., L=1000, 8000, 12000, 24000, etc.)
  - What are the effects on the throughput, average number of transmissions and slot probabilities?
- What is better for the AP: transmit 4x more (reduce CWmin, for instance to 7), or transmit 4x longer packets? Justify the answer.