ECE 597AA – Project Assignment

Question 1.

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*At state* ***s*** *, if an arrival slice is accepted, i.e., as = 1 , the system will move to next state s′ and the network provider receives an immediate reward rc . In contrast, the immediate reward is equal to 0 if an arrival slice is rejected or there is no slice request arriving at the system. The value of rc represents the amount of money paid by the tenant based on resources and additional services required.*

Assume the network provider aims to maximize the immediate reward defined in [equation (16), ref2]. Formulate the network provider’s resource allocation problem as a centralized optimization problem. This problem includes the allocation of radio, computing and storage resources to network slices (by the network provider) to meet the slice requests from tenants.

* In state s,
  + If arrival slice is accepted i.e., as = 1
    - The system will move to next state s’
      * Network provider receives immediate reward rc
        + The value of rc represents the amount of money paid by the tenant based on resources and additional services required
  + If arrival slice is rejected or no slice request arriving at the system
    - Immediate reward is 0

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[*https://cs.fit.edu/~msilaghi/teza/chapter22.pdf*](https://cs.fit.edu/~msilaghi/teza/chapter22.pdf)