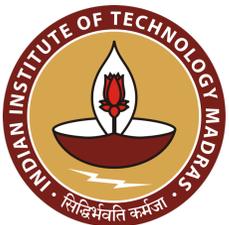


Views on AI/ML for Mobility

Indian Institute of Technology Madras



Motivation

- Limitations of Conventional Approaches for Mobility
 - Conventional methods are rule based and reactive
 - Handover (HO) is initiated only after UE measurements
 - Not feasible in high mobility scenarios
- Expectations from AI/ML
 - Can move from reactive rule-based to proactive data-driven
 - Reduce HO failures and HO latency
 - Can be UE-side or NW-side
 - Optimal even in high mobility scenarios

Proposal 1: We agree to consider AI/ML-based Mobility as a Study Item led by RAN 2 for Rel 19



AI/ML based Mobility – Proposed Approach 1

- AI/ML-based prediction of measurements
 - AI/ML model learns to predict future values of RSRP, RSRQ, SINR, etc.
 - Input: Past measurements
 - Output: Future measurement prediction
 - HO decision based on conventional rules



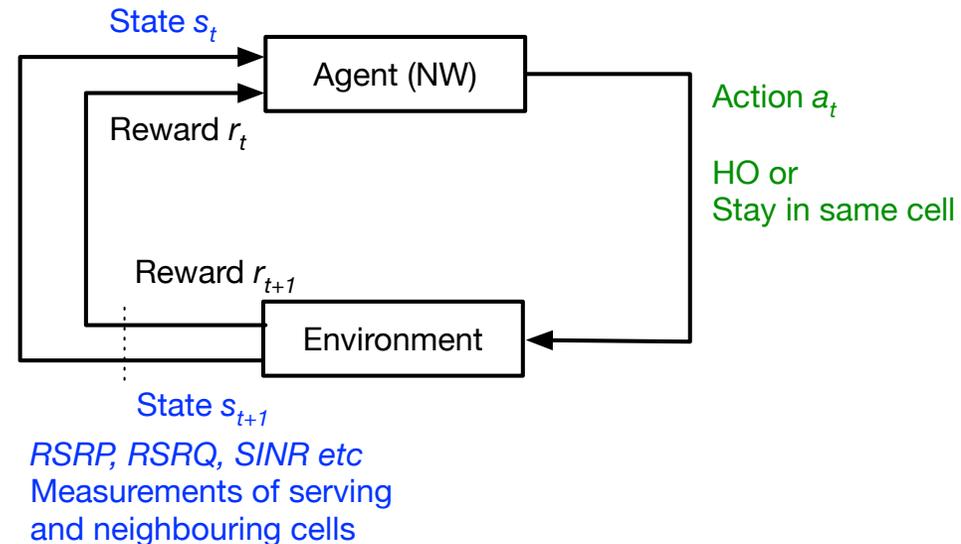
AI/ML based Mobility – Proposed Approach 2

- AI/ML-based periodicity of measurements
 - AI/ML model learns to predict when RSRP, RSRQ, SINR etc. need to be measured
 - Input: Past measurements of RSRP, RSRQ, SINR etc. of the serving cell
 - Output: Future periodicity of measurements (select from a set of values)
 - Measurement can be made using AI/ML or Non-AI/ML methods
 - HO decision based on conventional rules



AI/ML based Mobility – Proposed Approach 3

- AI/ML-based HO Decision
 - AI/ML model (Reinforcement Learning) learns to predict whether to handover or not
 - Input: Current RSRP, RSRQ, SINR etc., HO history with measurements
 - Output: Whether to handover or not



Thank You!

