

Learning based dynamic optimization in massive IoT networks

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Objectives

- Optimizing **massive** and **inter-dependent** configurations under **time-varied traffic** and **heterogeneous requirements** in mIoT networks.

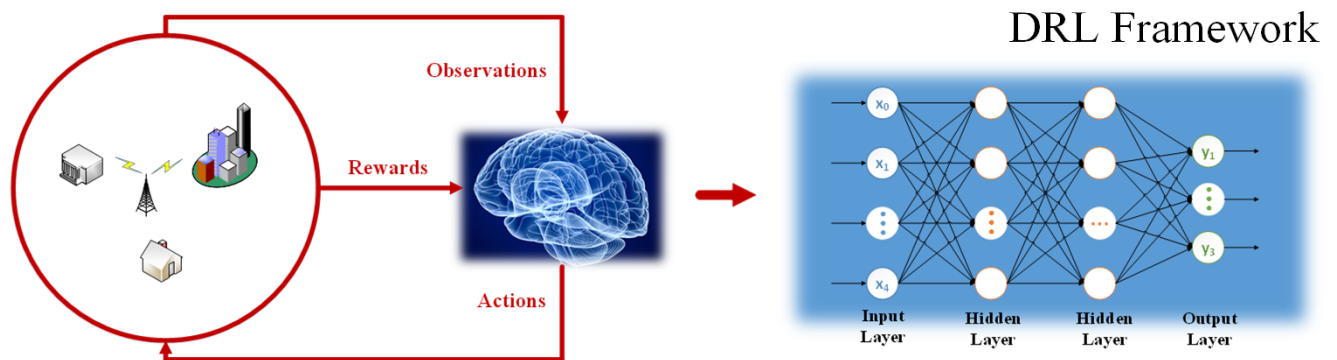
Deep Reinforcement Learning:

- **Self-Improvement**
- **Cooperative Optimization**
- **Long-term KPIs**

VS

Conventional Solutions:

- **Heuristic**
- **Independent Optimization**
- **Short-term KPIs**



Case Study:

- NarrowBand-IoT (5G mIoT solution)
- Bursty Traffic Scenario (e.g., massive alarm system)
- Configuring resource for access and data

Methodology:

- **Q-learning**
- **DNN/LSTM**
- **Multi-agent Cooperative Learning**

Numerical Results:

