

Fast reinforcement learning for energy-efficient wireless communications

INF8225 - Project

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- Practical application of Markov Decision Processes (MDPs)
- Explore algorithm variants and compare results

1 The article

- Context
- Problem
- Proposed solution

2 Some theory

- Value iteration
- Reinforcement learning & Q-learning

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- several ways to optimize power consumption while transmitting delay-sensitive information
 - on the software side...
 - and on the hardware side
- but no strategy to ally both

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Problem

Find a way to solve the optimization problem (balancing the constraints of low power consumption and low transmission time)

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Proposed solution

- Power management problem \equiv MDP
- Separate known and unknown components (generalize* the PDS concept)
- Use reinforcement learning to solve the DPM problem

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Reinforcement learning & Q-learning