Technion – Israel Institute of Technology



HW3

Autonomous Navigation and Perception

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# Theoretical questions

Q1:

Consider two distributions & over random variables .

Prove that the KL divergence between these two distributions can be factorized as:

Q2:

1. )

Steps:

1. Calculate
2. Get observation probability
3. From 1+2 update propagate belief -
4. Calculate reward

Following the solutions above, running over all and multiply 3 parameters:

For the denominator, same as section c:

For the nominator, running over

Thus,

Since the algorithm runs over all the states,

Calculating the objective, we have:

Running over all observations: