

Thursday Apr 10, 2025

In-class Warm Up

COSC 410A Applied Machine Learning

Prof. Forrest Davis

Name:

Discuss and complete the following questions with the person nearest you. You **may** be asked to share your thoughts with the class.

1. What is the best thing at flour and salt ?
2. Consider the following Q-value matrix resulting from 12 iterations for the following MDP (discussed in class) with a *discount factor* of 0.95. Calculate the updated Q-value in the next iteration for s_1 for all three actions a_0 , a_1 , and a_2 .

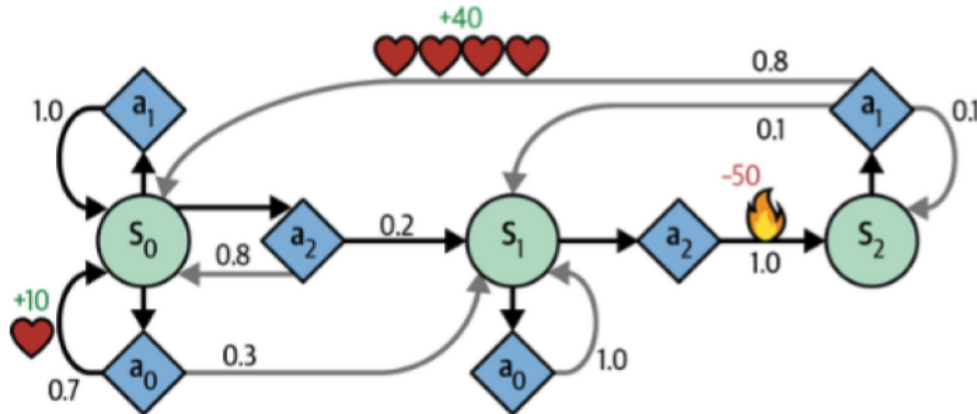


Figure 1: MDP example

- Q-value matrix:

$$\begin{bmatrix} 2.07 & 1.96 & 1.57 \\ 0 & -\infty & -0.036 \\ -\infty & 52.70 & -\infty \end{bmatrix} \quad (1)$$

- Hint: Recall the Q-value matrix rows correspond to states and columns correspond to actions