

CS 6301 - Machine Learning Lab - Week 9

Date: 07.10.2023

TITLE

IMPLEMENTATION OF EXPECTATION MAXIMIZATION ALGORITHM

LEARNING RESOURCE

- a) <https://medium.com/data-science-in-your-pocket/expectation-maximization-em-algorithm-explained-288626ce220e>

TASK

1. Let A and B be two coins. Assume certain number tosses for each of the coins but not both (as in the learning resource). Estimate ' θ_A ' & ' θ_B ' of these coins using Expectation Maximization Algorithm implemented in Python if we are given some trials without any differentiation of which samples belong to which coin.
2. Any color image is composed of a collection of pixels. Each pixel has three features namely the R, G, and B channels. Write a Python code to read an image and cluster related pixels in that image into two groups using Expectation Maximization Algorithm.