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CS 613 - Extra Credit Assignment report

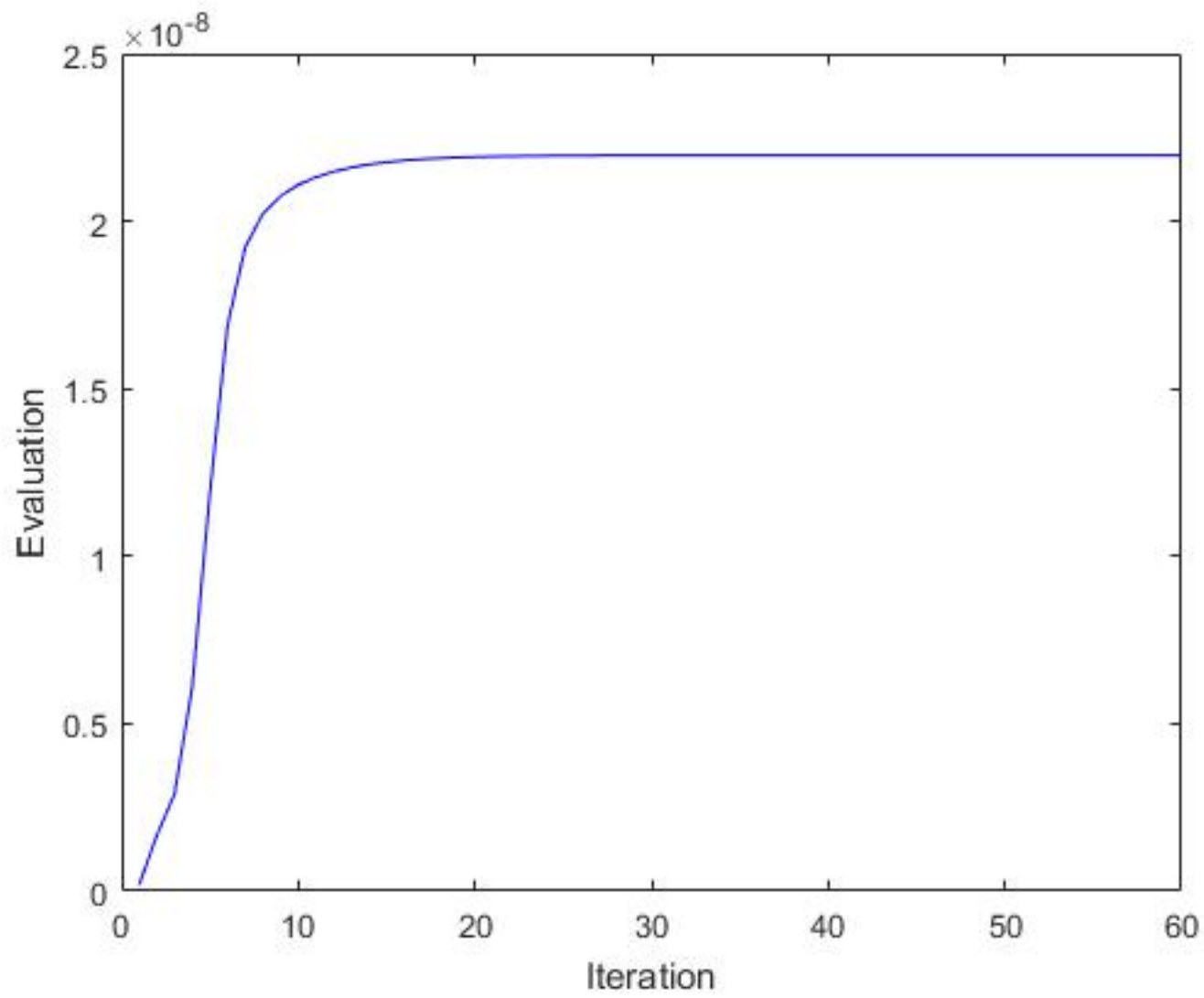
HIDDEN MARKOV MODELS

0.1 part1 A

$$P(O \mid \lambda) = 1.9153e^{-10} \tag{1}$$

$$P(O \mid random) = (1/3)^{20} = 2.81115e^{-10} \tag{2}$$

0.2 part1 B



0.3 part1 C

$$\lambda = ([1, 0], \begin{bmatrix} 0.690119 & 0.309880 \\ 0.093321 & 0.906678 \end{bmatrix}, \begin{bmatrix} 0.581589 & 1.211885e-08 & 0.418410 \\ 4.885295e-31 & 0.762061 & 0.237938 \end{bmatrix})$$