Alex Mercier

Dr. Fair

25 Apr 2024

Coding Checkpoint 2

Summary of Results

I successfully accomplished all of the goals I set out in my work plan for coding checkpoint two. I am happy with how the code works and I can decode any character available in the Morse dictionary at the top of the code.

My biggest difficult was determine how I was going to decode the Morse. I tried numerous methods on and off-neuron. The first method utilized convolution but after doing that I realized characters will look the same if they just start the same. Therefore, convolution was not useful in decoding the output. I then successfully decoded off-neuron utilizing an AER. However, I was not satisfied with this and went back to the drawing board. I had tried utliizing a method to return 1’s whenever the input and dictionary value was close and 0’s if they were far but did not have any success earlier. However, after receiving some help from Dr. Fair, I was able to get the proper output by utilizing a radius of 1.5 for the 2D combining neuron ensemble. This allowed me to properly represent the data and therefore output the proper values based on if they were close or not. I then utilized an AER to process how many times each output value was spiking and return the output value that spikes the most as the inputted answer.

No changes or assumptions were made throughout this coding checkpoint. I feel confident I will be able to meet the final coding checkpoint as outlined in my work plan and therefore would not like to make any adjustments.