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**Algorithm 1** Modified D. Vicente SOM Algorithm for TSP

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Initialize Network Neurons with Random Values  
Initialize Error Array to Track Winning Neuron Distance Errors

**for**  $i \leftarrow 1$  **to**  $iterations$  **do**  
    Get the Next Waypoint in Order to Train on  
    Find Closest Neuron to Current Waypoint (Winning Neuron)  
    Update Neuron Weights based off Winning Neuron  
    Terminate if Learning Rate is Completely Decayed  
    Terminate if Active Nuerons is Completely Decayed  
     $isPlatue \leftarrow mean(errorarray_{prev} - errorarray_{curr}) < 0.001$   
    **if**  $isPlatue$  and  $mean(errorarray_{curr} < 0.001)$  **then**  
        Terminate Training Early  
    **end if**  
    Update Error Array based off Neuron Distance to Waypoint  
**end for**  
Compute Optimal Route from Network  
Compute Route Distance  
**return**  $network, optimalRoute, routeDistance$

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