

```
1 from particle_swarm_optimization import Particle
2 from particle_swarm_optimization import ParticleSwarmOptimization
3 from backpropagation_neural_net import BackpropagationNN, Neuron
4 from random import random
5 # import pandas as pd
6 # from matplotlib import pyplot as plt
7
8
9 class BackpropagationPSO(BackpropagationNN):
10
11     def __init__(self, input, hidden, output, learning_rate):
12         super().__init__(input, hidden, output, learning_rate)
13
14     def initWeight(self, partikel):
15         layer = list()
16         partikel_dimens_idx = 0
17         input_to_hidden = list()
18
19         for i in range(self.HIDDEN_LAYER):
20             w = list()
21             for j in range(self.INPUT_LAYER):
22                 w.append(partikel[partikel_dimens_idx])
23                 partikel_dimens_idx += 1
24
25             w.append(random())
26             input_to_hidden.append(Neuron(w))
27         layer.append(input_to_hidden)
28
29         hidden_to_output = list()
30         for i in range(self.OUTPUT_LAYER):
31             w = list()
32             for j in range(self.HIDDEN_LAYER + 1):
33                 w.append(random())
34             hidden to output.append(Neuron(w))
```