

```

1  function [predicted_class_vector diff_vector weight_vector] =
    interp_classification(dataset, capacity, initial_weight_vector, alpha, N)
2
3  num_rows = size(dataset,1);
4  max_vector = max(dataset(:,1:N));
5
6  weight_matrix = -alpha*max_vector + initial_weight_vector +
    2*alpha*rand(1,N,capacity).*max_vector; %generates random values from
    -range_vector to range_vector
7
8  class_vector = dataset(:,N+1);
9
10 sum_matrix = sum(weight_matrix.*dataset(:,1:N),2);
11
12 diff_matrix = abs(sum_matrix .- class_vector);
13 diff_matrix = sum(diff_matrix);
14
15 [diff_page] = min(diff_matrix);
16 weight_vector = weight_matrix(:, :, page);
17 interp_class_vector = sum(weight_vector.*dataset(:,1:N),2);
18
19 unique_classes = unique(dataset(:,N+1));
20 num_classes = size(unique_classes, 1);
21 test_matrix = ones(num_rows,num_classes).*unique_classes';
22
23 answer_matrix = abs(interp_class_vector .- test_matrix);
24
25 [diff_vector predicted_class_vector] = min(answer_matrix, [], 2);
26
27 endfunction

```