```matlab
function [final_region_matrix final_delta] = optimize_image_clusters(average_color_array,
average_color_matrix, N)

  s = 1.23*calculate_std_dev_matrix(average_color_matrix,3); %these are RGB vectors
  max_iterations = 25;
  increment = s/max_iterations;

  max_diff = 0;

  delta = 0;

  region_matrix = cluster_regions(average_color_array, delta, N);
  prior_ent = entropy(region_matrix);

  for i = 1 : max_iterations

    delta = delta + increment

    region_matrix = cluster_regions(average_color_array, delta, N);
    current_ent = entropy(region_matrix);

    diff = abs(current_ent - prior_ent)

    if(diff > max_diff)

      max_diff = diff;
      final_region_matrix = region_matrix
      final_delta = delta;

    endif

    prior_ent = current_ent;

  endfor

endfunction
```