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                                generate_single_path_img_data
function [category_tree delta_tree anchor_tree data_array img_stats_array] =
generate_single_path_img_data(directory_path_A, num_images_A)

    data_array = {};

    for i = 1 : num_images_A

        temp_img = imread([directory_path_A int2str(i) '.jpg']);
        [region_matrix N S_mat prob_mat] = identify_features(temp_img);

        %this loads the color information
        temp_data_array = calculate_average_feature_color(temp_img,N,region_matrix,
prob_mat, 0, i);
        data_array = {data_array{:} temp_data_array{:}};

        img_stats_array{i,1} = region_matrix;
        img_stats_array{i,2} = N;
        img_stats_array{i,3} = S_mat;
        img_stats_array{i,4} = prob_mat;

    endfor

    [category_tree delta_tree anchor_tree] = generate_data_tree(data_array);

endfunction

```