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                                weighted_image_compare
function Delta = weighted_img_compare(H_1, U_1, SC_1, SI_1, N_1, avg_ent_1,
num_pix_1, H_2, U_2, SC_2, SI_2, N_2, avg_ent_2, num_pix_2);

Delta = 0;

for i = 1:N_1^2
    for j = 1:N_2^2
        w_1 = SI_1(i);
        w_2 = SI_2(j);
        I_1 = H_1(i)*num_pix_1;
        I_2 = H_2(j)*num_pix_2;
        delta = sqrt((U_1(i) - U_2(j))^2 + (SC_1(i) - SC_2(j))^2);
        test = 1/(1 + delta)*(w_1*I_2 + w_2*I_1);
        if((I_1 > 0) && (I_2 > 0))
            test = test/(I_1 + I_2);
            Delta = Delta + test;
        endif
    endfor
endfor

Delta = Delta / (N_1*N_2);

endfor

endfunction

```

weighted_image_compare