Self-compiled image processing algorithm

*% Read the image and convert it to the grayscale map. x1 is a variable to control the grayscale map output.*

I = imread('Name');

[h,w,z]=size(I);

I\_result=I;

BWLQ=im2bw(I,x1/255);

*% Show the grayscale interface profile. x2 is a valuable to filter the unreasonable grayscale data. The function of SizeFilter\_LQ is appended at the end.*

EdgeLQ=[];

f\_size=x2;

[I\_ccLQ]=SizeFilter\_LQ(BWLQ,f\_size);

I\_bw\_zong=zeros(h,w);

for i=1:h

for j=1:w

I\_bw\_zong(i,j)=I\_ccLQ(i,j);

end

end

figure,imshow(I\_bw\_zong)

*% Extract the coordinate values of grayscale interface profile.*

for i=1:h

for j=1:w

if(I\_ccLQ(i,w-j+1)==0)

EdgeLQ=[EdgeLQ;i,w-j+1];

break;

end

end

end

EdgeXYLQ=EdgeLQ;

for i=1:h

EdgeXYLQ(h-i+1,1)=EdgeLQ(i,2);

EdgeXYLQ(i,2)=EdgeLQ(i,1);

end

EdgeXYLQ1=EdgeXYLQ;

for i=1:h

EdgeXYLQ(h-i+1,:)=EdgeXYLQ1(i,:);

end

for i=1:h

XLQ(i)=EdgeXYLQT(i,1);

YLQ(i)=EdgeXYLQT(i,2);

end

*% The definition of the function of SizeFilter\_LQ in image processing algorithm.*

function [I\_cc]=SizeFilter\_LQ(BWL,f\_size)

[h,w,z]=size(BWL);

I\_cc=zeros(h,w);

[Label\_cc,cc\_num] = bwlabel(BWL,8);

sa = regionprops(Label\_cc, 'Area');

[n,c]=size(sa);

large\_cc=[];

Areas = cat(1, sa.Area);

for i=1:n

if(Areas(i)>f\_size)

large\_cc=[large\_cc;i];

end

end

[n,c]=size(large\_cc);

for i=1:h

for j=1:w

for k=1:n

if(Label\_cc(i,j)==large\_cc(k))

I\_cc(i,j)=1;

end

end

end

end