```
close all;

I = imread('./data/1.jpg');

I_gray = rgb2gray(im2double(I));

I_lab = rgb2lab(I);

I = im2double(I);

[m,n] = size(I_gray);
```

一般的 SILC 尝试不同的 K 和 M

```
ks = [10 \ 20 \ 100 \ 400 \ 1600 \ 2500];
M = [5 10 20 30 35 40];
figure(1);
for i = 1:6
   tic;
   [L,N] = MySLIC(I_lab,I_gray,ks(i),25,0);
   t = toc;
  L_bw = boundarymask(L);
   subplot(2,3,i);
   imshow(imoverlay(I,L_bw,'cyan'),'InitialMagnification',67);
   title(sprintf('k: %d, time: %.2f sec', ks(i), t));
end
figure(2);
for i = 1:6
   tic;
   [L,N] = MySLIC(I_lab,I_gray,1600,M(i),0);
   t = toc;
   L_bw = boundarymask(L);
```

```
subplot(2,3,i);
imshow(imoverlay(I,L_bw,'cyan'),'InitialMagnification',67);
title(sprintf('m: %d, time: %.2f sec', M(i), t));
end
```



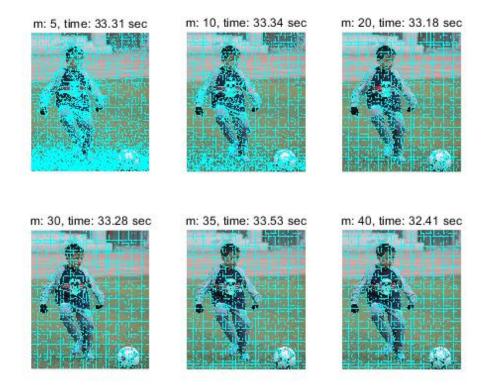












对比原始 SLIC 和 ASLIC (分割图)

```
figure(3);

tic;

[L,N] = MySLIC(I_lab,I_gray,1600,32,0);

t = toc;

L_bw = boundarymask(L);

subplot(2,2,1);

imshow(imoverlay(I,L_bw,'cyan'),'InitialMagnification',67);

title(sprintf('SLIC, time: %.2f sec', t));

tic;

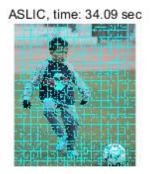
[L1,N1] = MyASLIC(I_lab,I_gray,1600,32,0);

t = toc;

L1_bw = boundarymask(L1);
```

```
subplot(2,2,2);
imshow(imoverlay(I,L1_bw,'cyan'),'InitialMagnification',67);
title(sprintf('ASLIC, time: %.2f sec', t));
```

SLIC, time: 33.24 sec



显示 SLIC 的超像素图

```
I_SLIC = I;

for i = 1:N

  index = find(L == i);

[h,w] = ind2sub([m,n],index);

Sizei = size(index);

pixels = [0,0,0];

for j = 1:Sizei(1)

  pixels = pixels + [I(h(j),w(j),1), I(h(j),w(j),2), I(h(j),w(j),3)];

end
```

```
pixels = pixels / Sizei(1);
   for j = 1:Sizei(1)
      I_SLIC(h(j),w(j),:) = pixels;
   end
end
subplot(2,2,3);
imshow(I_SLIC);
title('SLIC');
```

SLIC, time: 33.24 sec



ASLIC, time: 34.09 sec

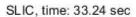




显示 ASLIC 的超像素图

```
I1_SLIC = I;
for i = 1:N1
   index = find(L1 == i);
   [h,w] = ind2sub([m,n],index);
```

```
Sizei = size(index);
   pixels = [0,0,0];
   for j = 1:Sizei(1)
      pixels = pixels + [I(h(j),w(j),1), I(h(j),w(j),2), I(h(j),w(j),3)];
   end
   pixels = pixels / Sizei(1);
   for j = 1:Sizei(1)
      I1_SLIC(h(j),w(j),:) = pixels;
   end
end
subplot(2,2,4);
imshow(I1_SLIC);
title('ASLIC');
```







ASLIC, time: 34.09 sec



ASLIC



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