

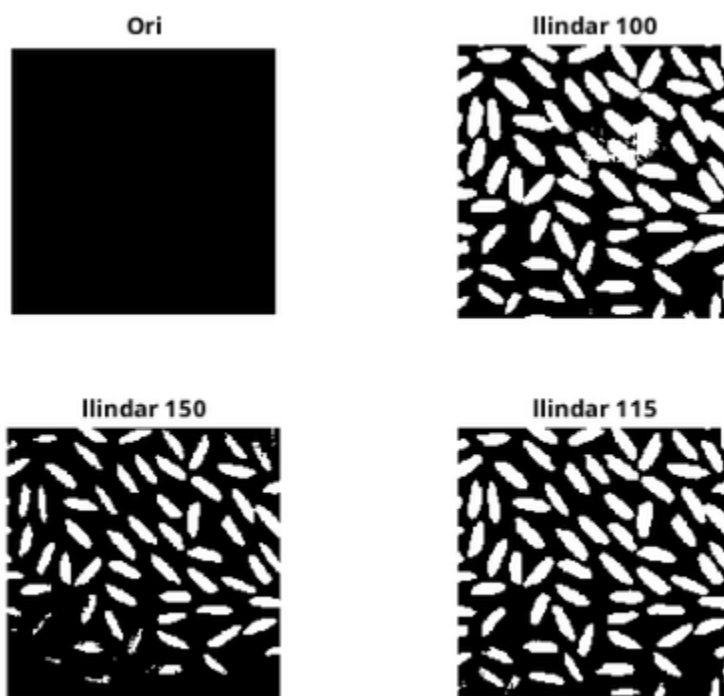
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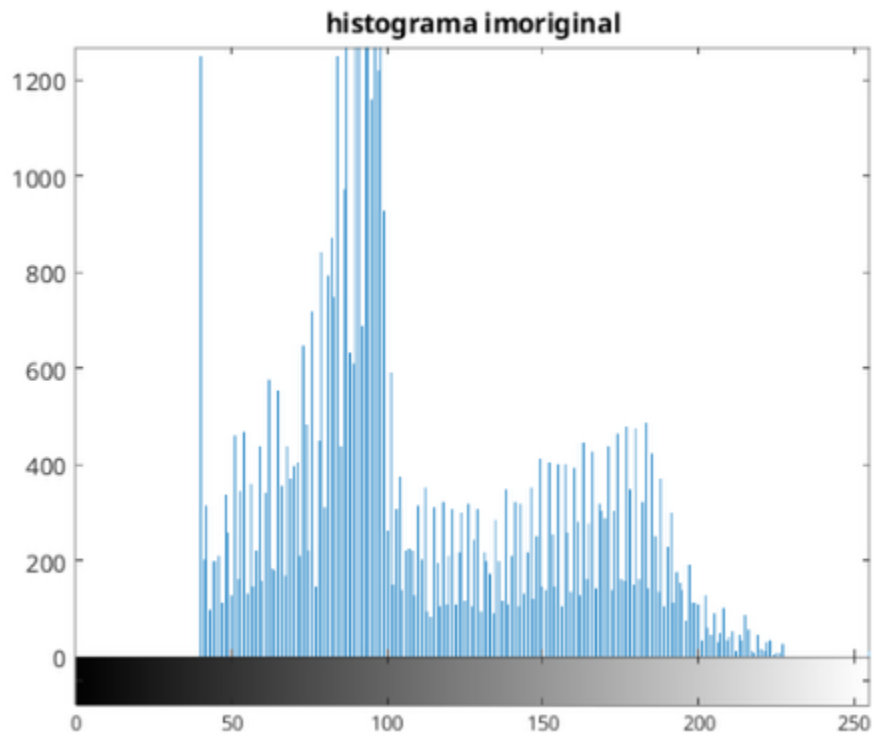
```
im = imread("arros.tif");  
bw1 = im > 100;  
bw2 = im > 150;  
bw3 = im > 115;
```

```
figure;  
subplot(2,2,1);imshow(dil);title('Ori');  
subplot(2,2,2);imshow(bw1);title('llindar 100');  
subplot(2,2,3);imshow(bw2);title('llindar 150');  
subplot(2,2,4);imshow(bw3);title('llindar 115');
```



## histograma per detectar al threshold

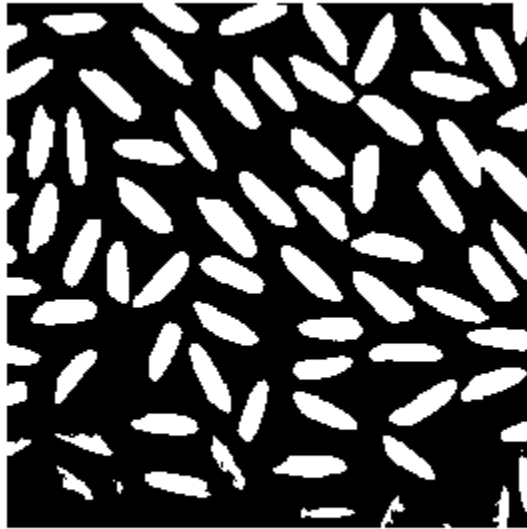
```
figure; imhist(im); title('histograma imoriginal');  
pause(0.5);
```



```
th = graythresh(im); % per defecte utilitza Otsu, maximitza variança inter  
bw4 = im2bw(im, th);  
  
figure; imshow(bw4); title('llindar Otsu');  
pause(0.5);
```

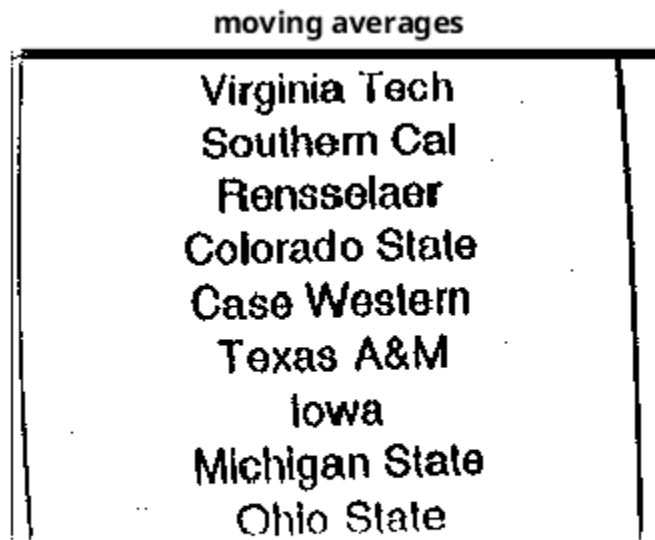
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Ilindar Otsu



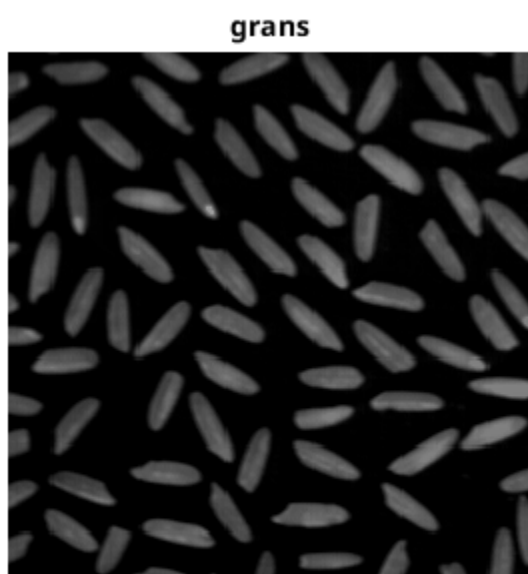
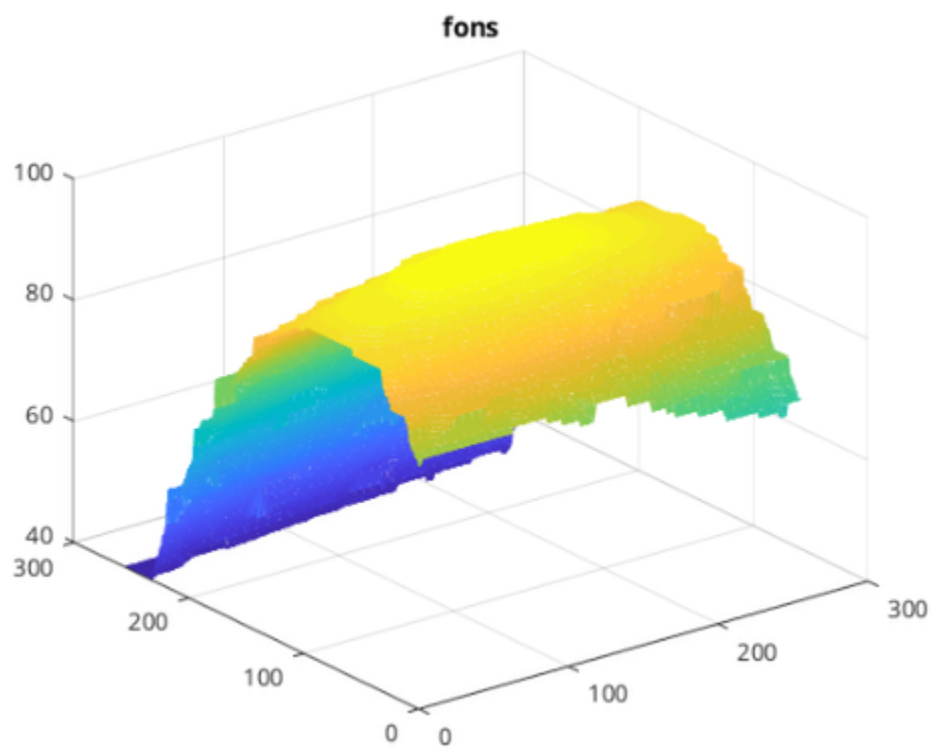
## moving averages

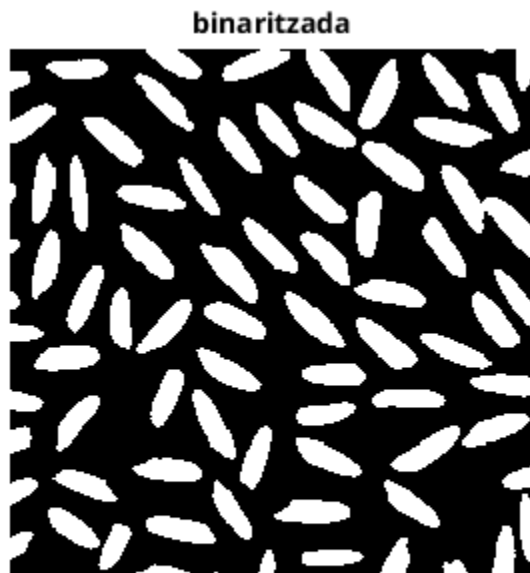
```
imtxt = imread('textsheet.jpg');  
  
h=ones(31);  
h=h/31/31;  
K = 25;  
  
res2=imfilter(imtxt,h,'conv');  
  
res = imtxt > (res2 - K);  
  
figure, imshow(res),title('moving averages');  
pause(0.5);
```



## operacions morfològiques

```
ee = strel('disk', 20);  
bg = imopen(im, ee);  
figure, mesh(bg), title('fons');  
pause(0.5);  
  
res = im-bg;  
  
figure, imshow(res), title('grans');  
pause(0.5);  
  
th = graythresh(res); % per defecte utilitza Otsu, maximitza variança inter  
final = im2bw(res, th);  
figure, imshow(final), title('binaritzada');  
pause(0.5);
```





## etiquetatje

```
[eti, num] = bwlabel(final, 4);

figure, imshow(eti, []), title('etiquetada');
pause(0.5);
colormap('colorcube');

Dades = regionprops(eti, 'all');
area50 = Dades(50).Area;
Arees = [Dades.Area];

figure; bar(Arees);
pause(0.5);

max_A = max(Arees);
gros = find(Arees == max_A);

figure; imshow(eti==gros);
pause(0.5);
```

