```
function res = smooth1(input_image, filter_size )


b = im2double(imread('messi_binary.jpg'));      %读入不完全的灰度图，前景白，用于取人像
c = imcomplement(b);                                    %背景白，用于取虚化后的背景
a = im2double(input_image);
a_half = imfilter(a, ones(filter_size)/(filter_size * filter_size),'replicate');      %直接对原图滤波，相当于对 rgb3 通道分别滤波
res = zeros(size(a));


for i = 1:3
    res(:,:,i) = a_half(:,:,i) .* c + a(:,:,i) .* b;            %对 3 通道分别处理把清晰的人像和虚化的背景取出叠加
end


imshow(res,[]);


end
```

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