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Kelas: TI.22.A.2

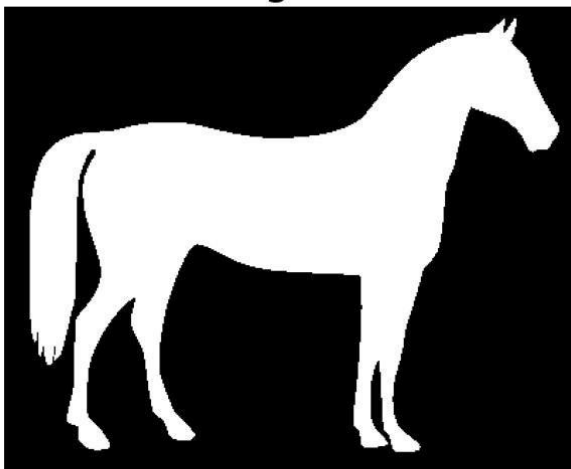
NIM: 312210245

Matkul: Pengolahan Citra

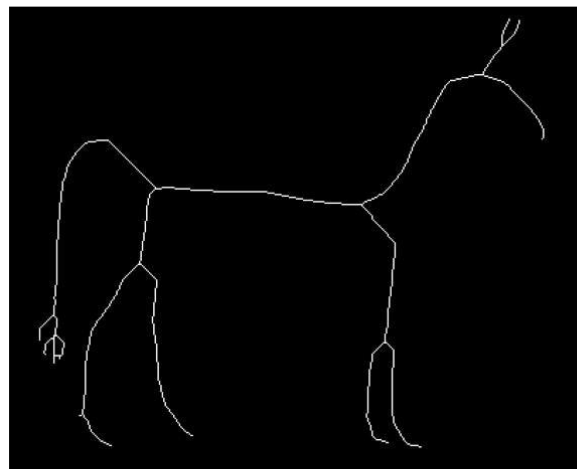
```
1 from skimage.morphology import skeletonize
2 from skimage import data
3 import matplotlib.pyplot as plt
4 from skimage.util import invert
5 # Invert the horse image
6 image = invert (data.horse())
7 #perform skeletonization
8 skeleton = skeletonize(image)
9 #display results
10 fig, axes = plt.subplots (nrows=1, ncols=2,figsize=(8, 4),sharex=True,sharey=True)
11 ax = axes.ravel ()
12 ax[0].imshow(image, cmap=plt.cm.gray)
13 ax[0].axis ('off')
14 ax[0].set_title('original', fontsize=20)
15 ax[1].imshow(skeleton, cmap=plt.cm.gray)
16 ax[1].axis ('off')
17 ax[1].set_title('skeleton', fontsize=20)
18 fig.tight_layout ()
19 plt.show()
```

Figure 1

original



skeleton



```

1 import numpy as np
2 import matplotlib.pyplot as plt
3 from skimage.color import rgb2gray
4 from skimage import data
5 from skimage.filters import gaussian
6 from skimage.segmentation import active_contour
7
8 # Load image
9 img = data.astronaut()
10 img_gray = rgb2gray(img)
11
12 # Data for circular boundary
13 s = np.linspace(0, 2 * np.pi, 400)
14 x = 220 + 100 * np.cos(s)
15 y = 100 + 100 * np.sin(s)
16 init = np.array([x, y]).T
17
18 # Formation of the active contour
19 cntr = active_contour(gaussian(img_gray, 3), init, alpha=0.015, beta=10, gamma=0.001)
20
21 # Plotting
22 fig, ax = plt.subplots(1, 2, figsize=(7, 7))
23 ax[0].imshow(img_gray, cmap=plt.cm.gray)
24 ax[0].set_title("Original Image")
25 ax[1].imshow(img_gray, cmap=plt.cm.gray)
26 ax[1].plot(init[:, 0], init[:, 1], '--r', lw=3)
27 ax[1].plot(cntr[:, 0], cntr[:, 1], '-b', lw=3)
28 ax[1].set_title("Active Contour Image")
29
30 plt.show()
31

```

