

seyedin@um.ac.ir

1

[2 1]

[6 5 4 3]

1

[8 7 3]

¹- Deformable Template

4

[8 3]

[3]

[9]

2

PC

(2)

(1)

2

1

2

3

4

5

1

2

)

(

3

CPU

(1024×1024)

³

CCD

1.2mm

34PM-C007

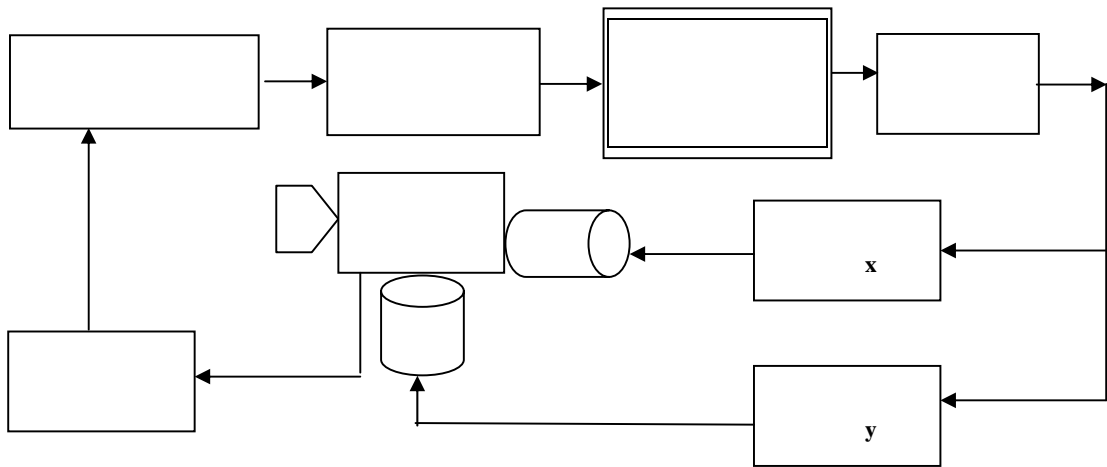
10kg.cm

MINEBEA

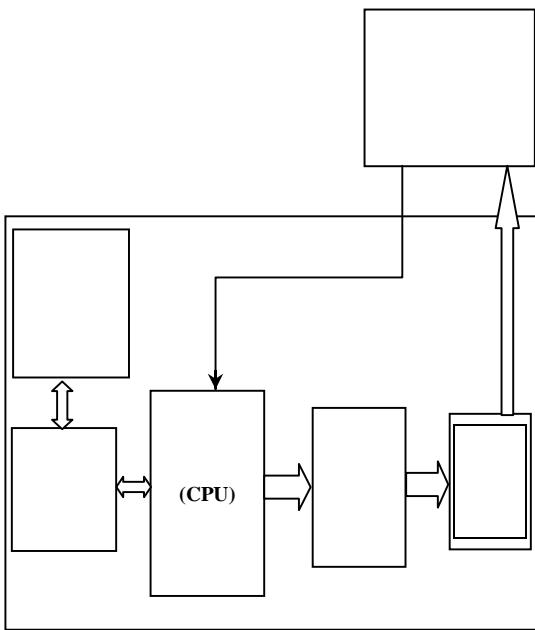
1.8

² - Real Time

³ - Video Grabber



- 1



2

TMS
 TMS320C25
 0.009
 CPU

5

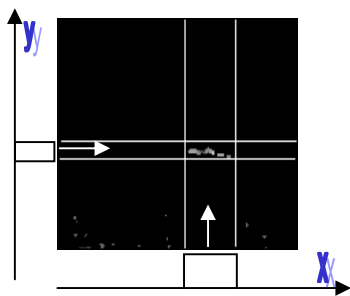
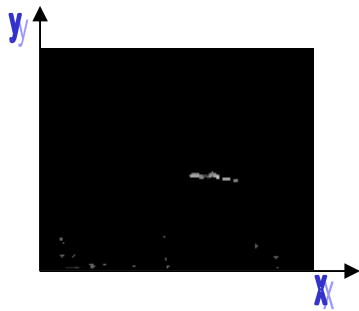
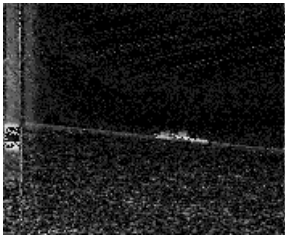
C++

:

y x
 Erosion
 Dilation

4

⁴- Projection



- 3

3x3

y x

5

Erosion

1x3

1x9

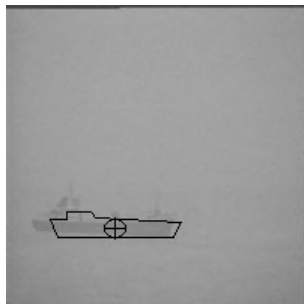
Dilation

9

y x
6

()

⁵ - Structuring Element
⁶ - Back Projection



4

(3)

$T(\theta)$ [9]

[9]

$p(\theta | I)$

6

25 frame/sec :

0.009 °/step :⁷

0.011 °/step :⁸

5×5

10

1.88 m :

10

2.5 m :

1.2

144×176

1.45 × 1.18

10

(4)

[1] Gonzalez R.C. and Wooda R.E., “ Digital Image Processing ” , Addison-Wesely,1992.

[2] Anil k.Jain, “ Fundamentals of Digital Image Processing ” , Printice Hall, 1989

[3] Dubuisson Jolly Marie-Pierre, Lakshmanan Sridhar, Jain Anil K., “ Vehicle Segmentation and Classification Using Deformable Templates ” , Transaction on Pattern Analysis and Machine Intelligence, vol. 18, no. 3, March, 1996.

[4] Peleg Shmuel and Hillel Rom, “ Motion Based Segmentation ” , 10th International Conference on Pattern Recognition, 1990.Proceedings, vol. 113.

[5] Bors Adrian G., Pitas Ioannis, “ Motion and Segmentation Prediction in Image Sequences Based on Moving Object Tracking ”, Image Processing, ICIP 98. Proceedings, vol.3,1998.

[6] Ciampini Roberto, Blance-feraud Laure, Barlaud Michel, salerno Emanuele, “ Motion-based Segmentation by means of Active

⁷ - Elevation

⁸ - Azimuth

Contours ”, Image Processing, ICIP 98. Proceedings, vol.2,1998.

[7] Jain Anil K., Zhong Yu and Lakshmanan Sridhar, “ Object Matching Using Deformable Templates ”, Transaction on Pattern Analysis and Machine Intelligence, vol. 18, no. 3, March, 1996.

[8] Mengko Tati L., Adiono Trio, Setyawan Handoko, Setiadarma Rini, “ Design and Implementation of Object Detection and Classification System Based on Deformable Template Algorithm ”, Asia-Pacific Conference on Circuits and Systems (APCCAS), 1998.

[9]