Canny edge detection

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卷积：

0	0	0	0	0	0	0	0
0	18	54	51	239	244	188	0
0	55	121	75	78	95	88	0
0	35	24	204	113	109	221	0
0	3	154	104	235	25	130	0
0	15	253	225	159	78	233	0
0	68	85	180	214	245	0	0
0	0	0	0	0	0	0	0

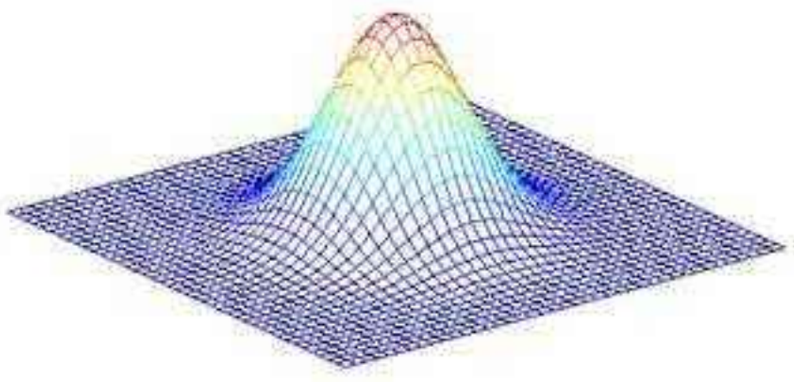
WEIGHT

1	0	1
0	1	0
1	0	1

139

padding **stride**

常见的卷积核：



$$\mathbf{B} = \frac{1}{159}\begin{bmatrix} 2 & 4 & 5 & 4 & 2 \\ 4 & 9 & 12 & 9 & 4 \\ 5 & 12 & 15 & 12 & 5 \\ 4 & 9 & 12 & 9 & 4 \\ 2 & 4 & 5 & 4 & 2 \end{bmatrix} * \mathbf{A}$$

-1	-2	-1
0	0	0
+1	+2	+1

Gx

-1	0	+1
-2	0	+2
-1	0	+1

Gy

边的特征：

衡量变化率：

-1	-2	-1
0	0	0
+1	+2	+1

Gx

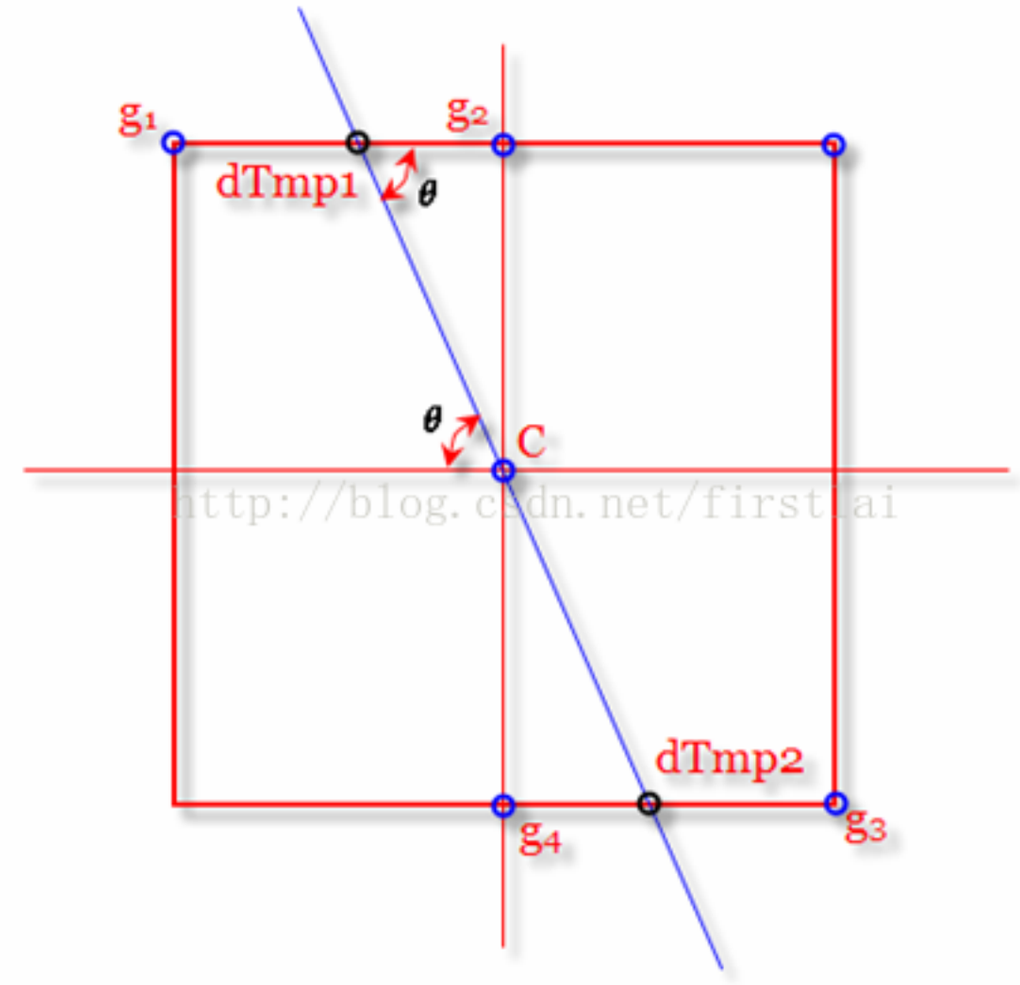
-1	0	+1
-2	0	+2
-1	0	+1

Gy

$$Edge\_Gradient\ (G) = \sqrt{G_x^2 + G_y^2}$$

$$Angle\ (\theta) = \tan^{-1}\left(\frac{G_y}{G_x}\right)$$

非极大值抑制：



边缘的连接：