

$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$
$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$
$\frac{1}{9}$	$\frac{1}{9}$	$\frac{1}{9}$

Averaging

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

Sobel vertical

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

Sobel horizontal