

Filter Captures Notion of a Vertical Edge

Let's use this **3×3 filter** of values.*

For each pixel,

- we center the 3×3 filter
- over the pixel,
- multiply each overlapping pixel
- with a filter value, and
- sum all of the results.

The sum indicates whether a vertical line appears at that pixel.

*The filter was designed by I. Sobel and G. Feldman in 1968.

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

vertical edge
filter