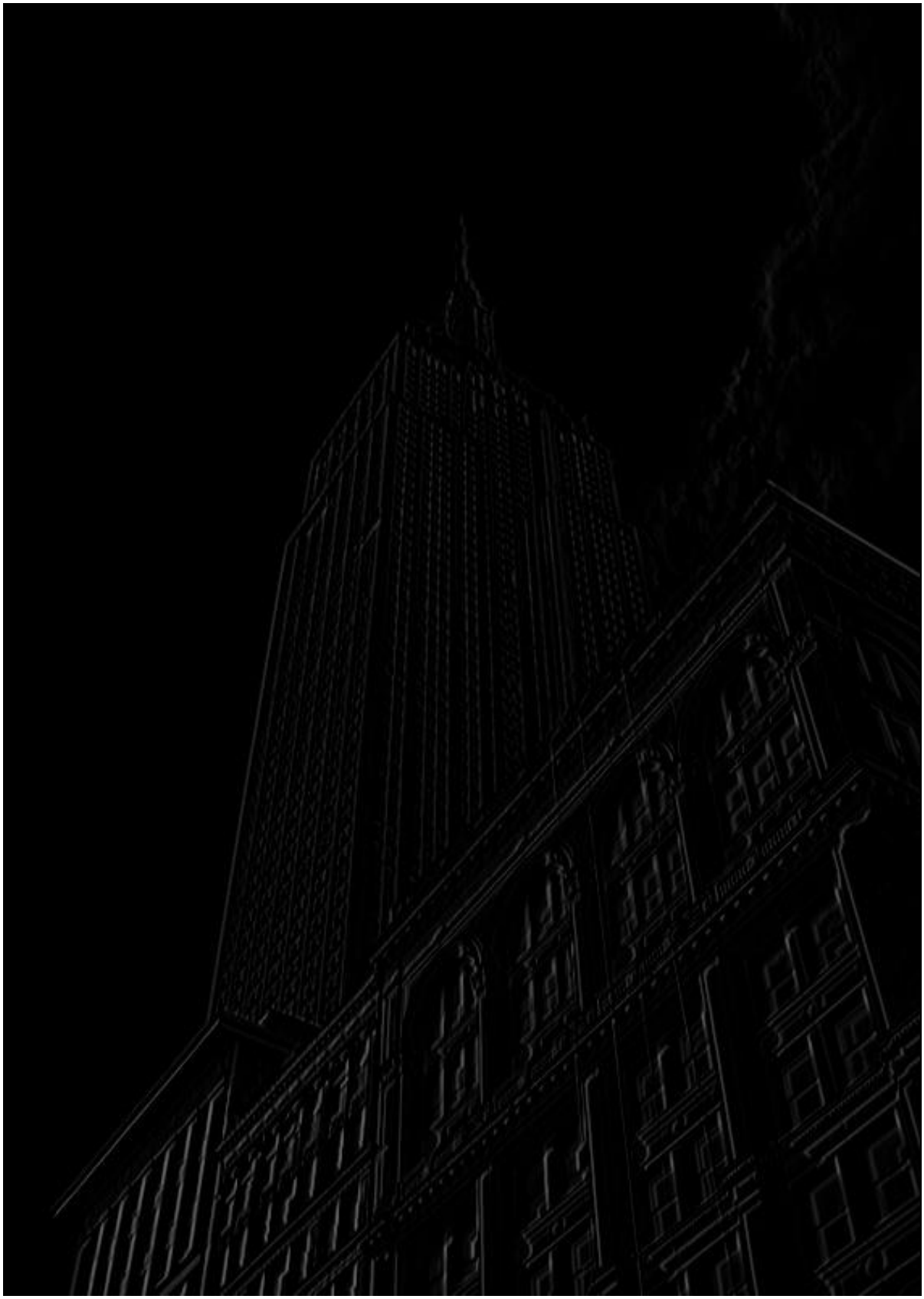
SIT 789: Image filtering and edge detection

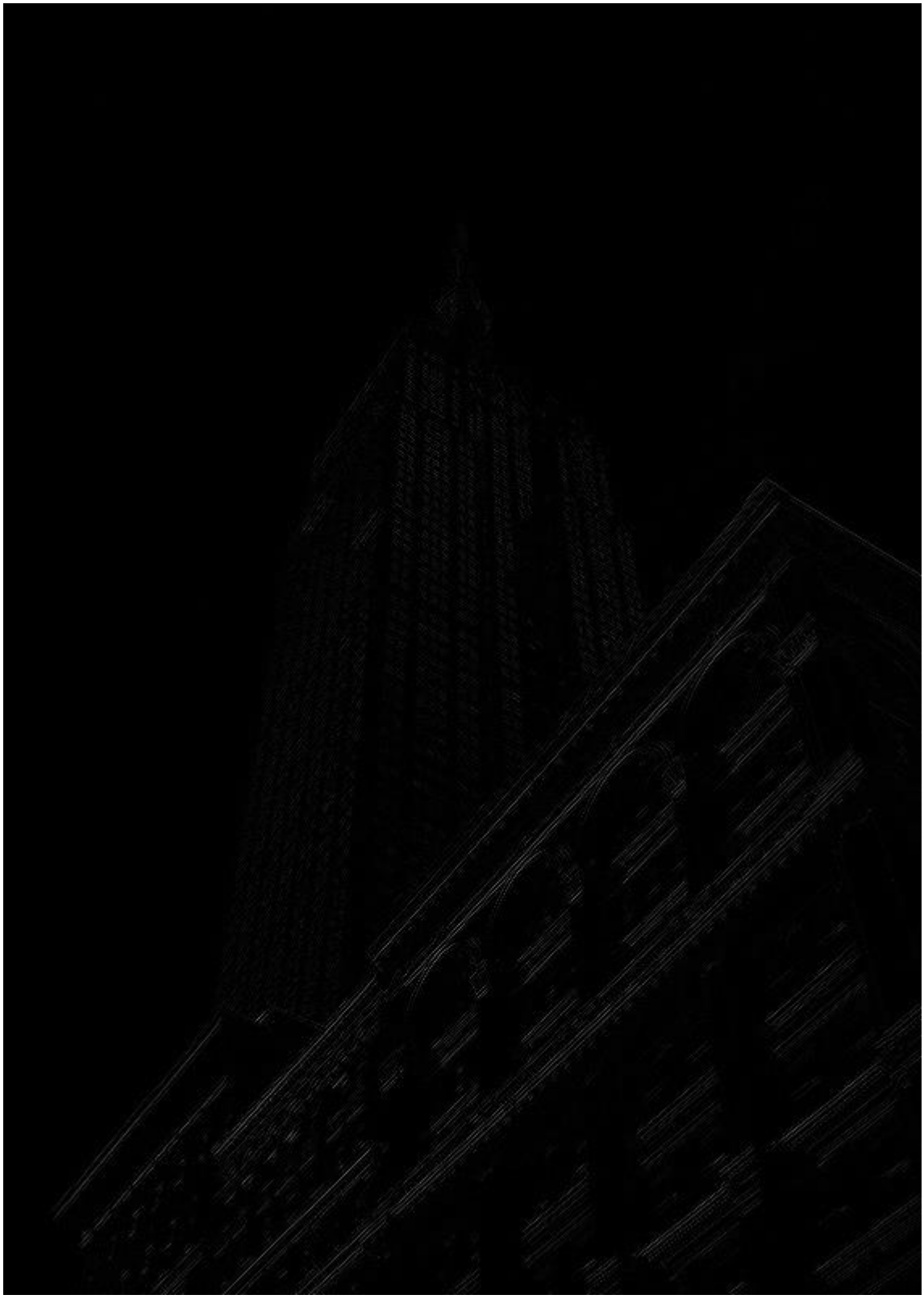
1: Write the results of the Gaussian, Sobel, corner, median, and bilateral filters (in Task 1) into files.

Gaussian kernel Result

Sobel kernel Result



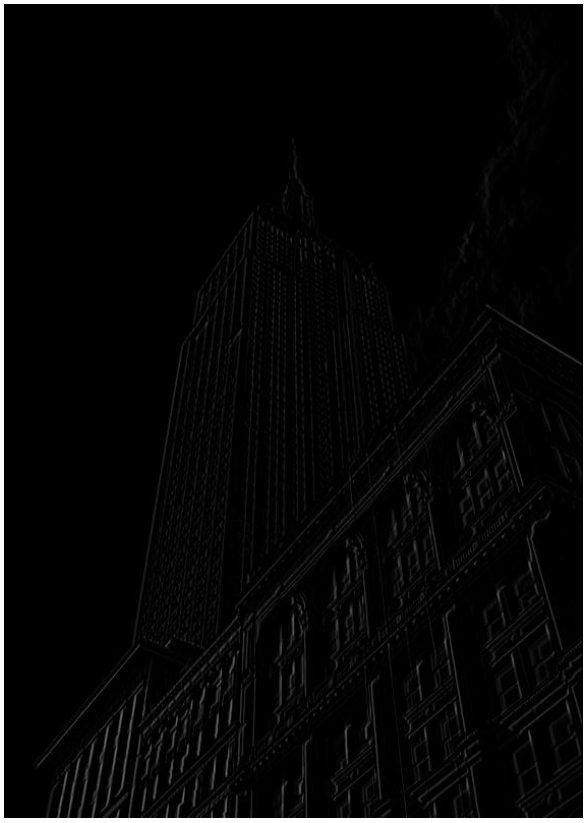
Corner filter Result



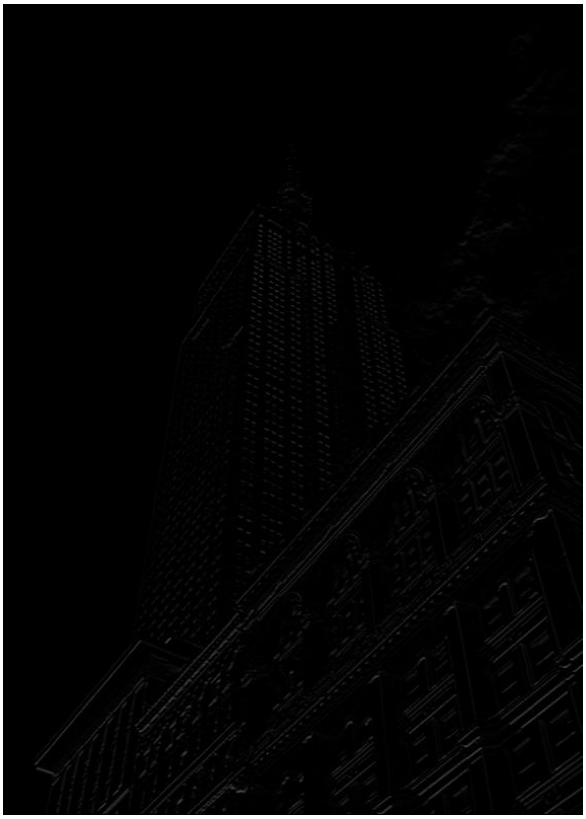
Median filter Result

Bilateral filter Result

2: Write the results of horizontal and vertical derivatives, and gradient magnitude (in Task 2) into files

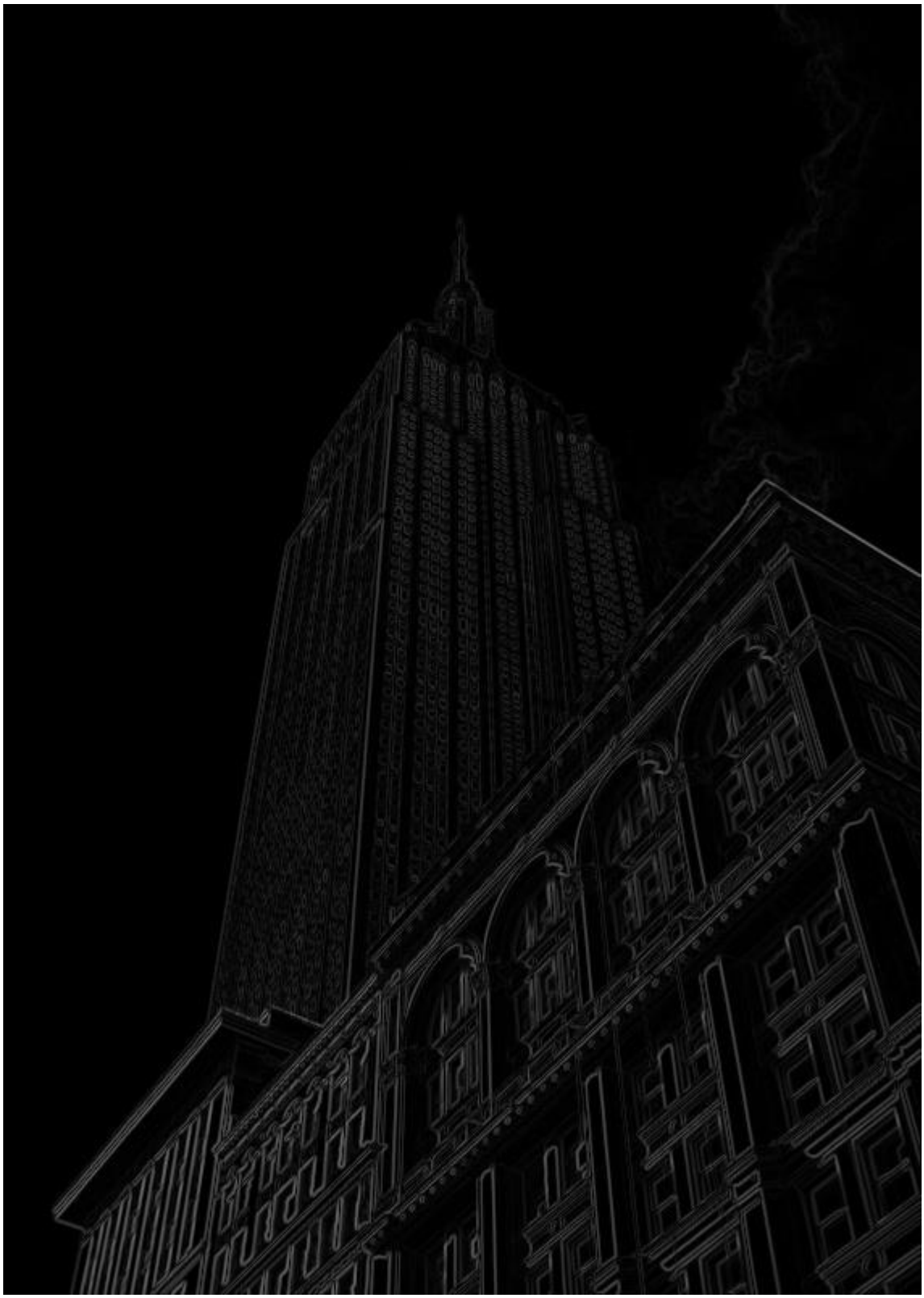


(a) X derivative Result



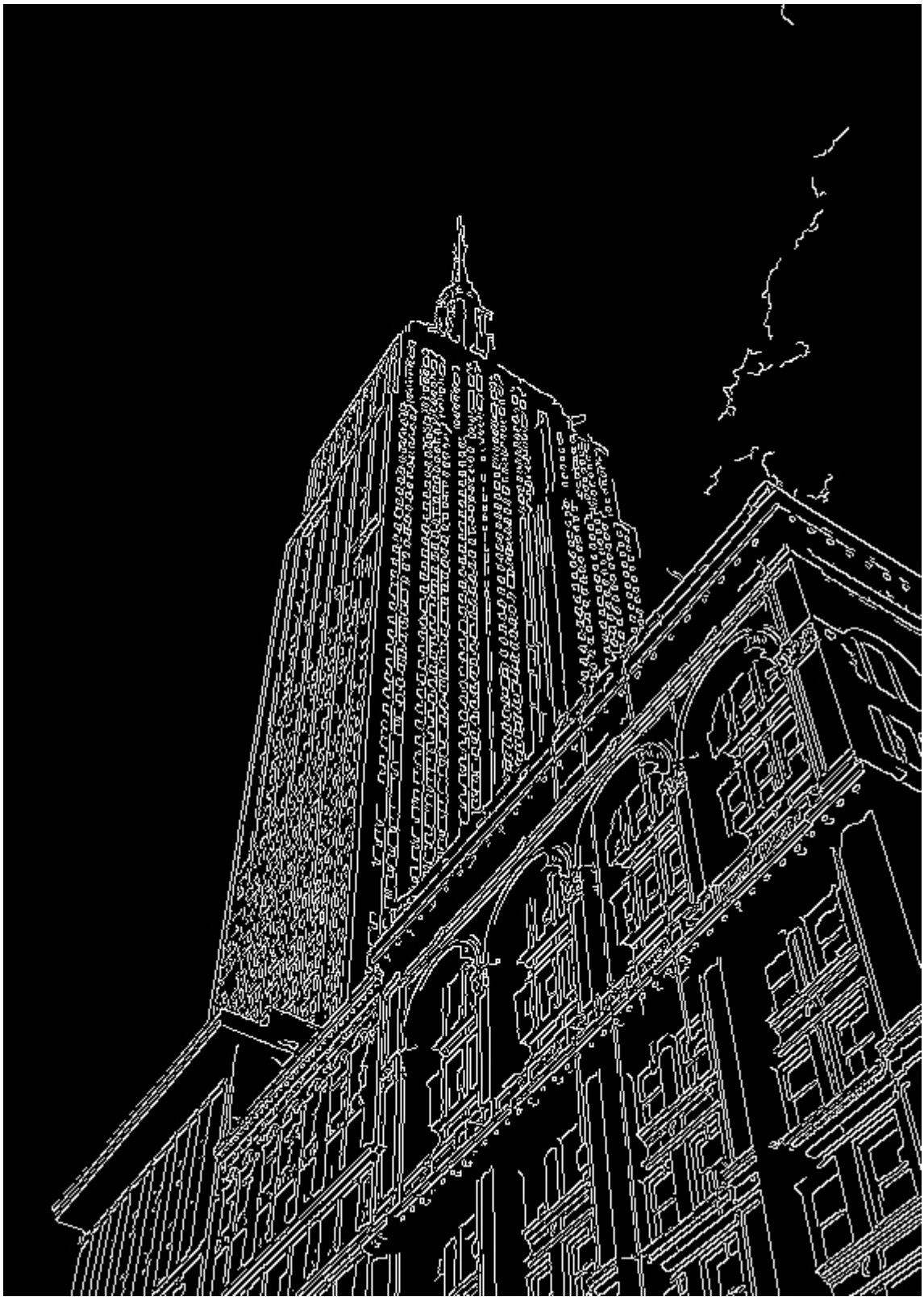
(b) Y Derivative Result

Gradient Magnitude Result:



3: Write the result of Canny edge detector into file.

Canny Result:



4: Compare the edge detection results by Sobel filters and Canny edge detector (just describe what you observe from the results)

(a) (b)

Fig: (a) Sobel Edges, (b) Canny Edges

We can see that Canny Edge detector can detect finer edges as compared to Sobel edge map. Canny Edge detector is highly configurable with max and min threshold which allows us to configure the quality/number of edges we want to detect.