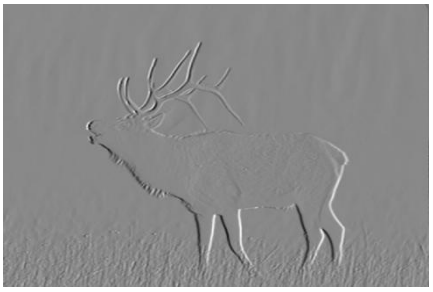
Ehsan Ayoubi
CAP 5415 – Computer Vision
Programming Assignment 1

IMG 41004 | Kernel Size: 5 | Sigma: 1 | Low Threshold: 14 | High Threshold: 16

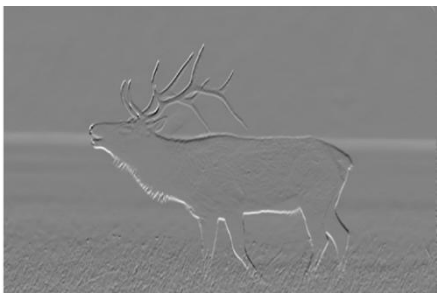
X Conv

Y Conv

X Conv Derivative

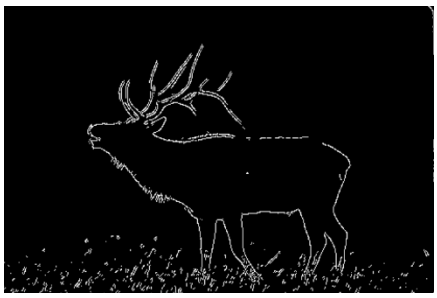


Y Conv Derivative



Gradient Magnitude

Hysteresis Thresho lding



Non-Max Suppression

Original Greyscale

Ehsan Ayoubi
CAP 5415 – Computer Vision
Programming Assignment 1

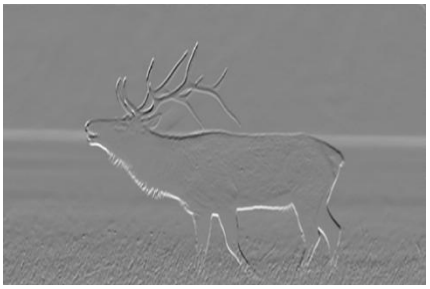
IMG 41004 | Kernel Size: 5 | Sigma: 2 | Low Threshold: 14 | High Threshold: 16

X Conv

Y Conv

X Conv Derivative

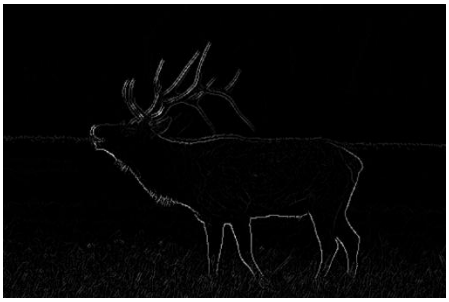
Y Conv Derivative



Gradient Magnitude

Hysteresis Thresholding

Non-Max Suppression



Original Greyscale

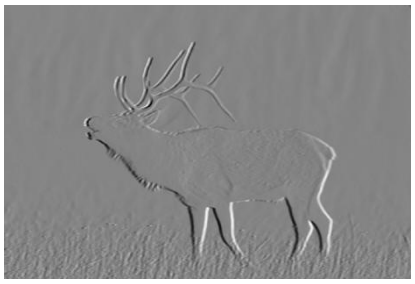
Ehsan Ayoubi
CAP 5415 – Computer Vision
Programming Assignment 1

IMG 41004 | Kernel Size: 5 | Sigma: 3 | Low Threshold: 14 | High Threshold: 16

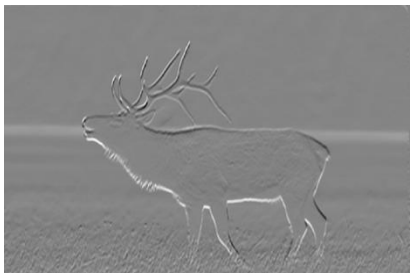
X Conv

Y Conv

X Conv Derivative



Y Conv Derivative



Gradient Magnitude

Hysteresis Thresholding

Non-Max Suppression

Original Greyscale

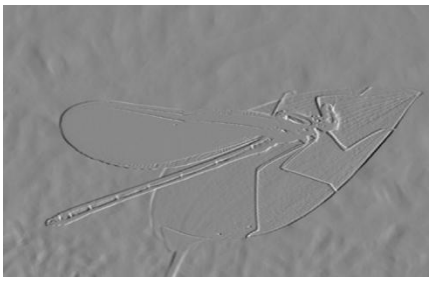
Ehsan Ayoubi
CAP 5415 – Computer Vision
Programming Assignment 1

IMG 35070 | Kernel Size: 5 | Sigma: 1 | Low Threshold: 5 | High Threshold: 10

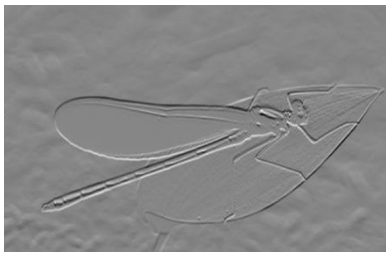
X Conv

Y Conv

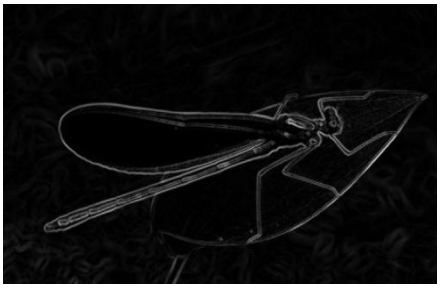
X Conv Derivative



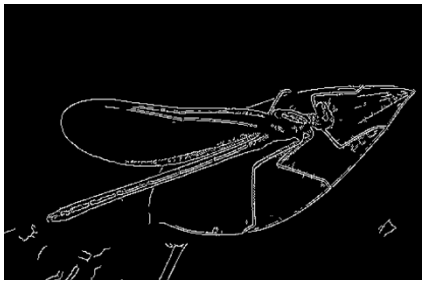
Y Conv Derivative



Gradient Magnitude



Hysteresis Thresholding



Non-Max Suppression

Original Greyscale

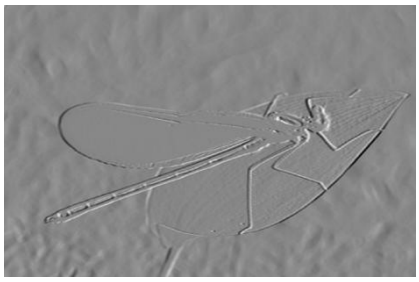
Ehsan Ayoubi
CAP 5415 – Computer Vision
Programming Assignment 1

IMG 35070 | Kernel Size: 5 | Sigma: 2 | Low Threshold: 5 | High Threshold: 10

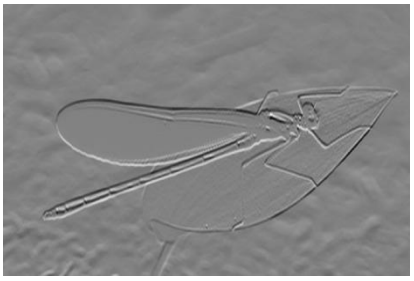
X Conv

Y Conv

X Conv Derivative

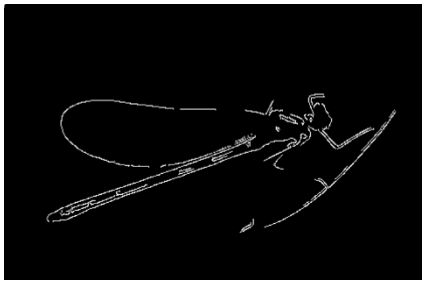


Y Conv Derivative



Gradient Magnitude

Hysteresis Thresholding



Non-Max Suppression

Original Greyscale

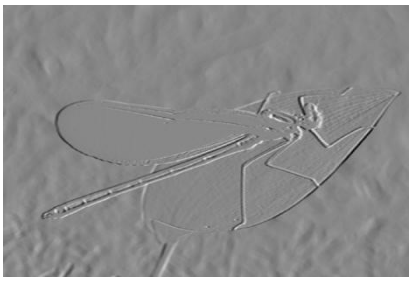
Ehsan Ayoubi
CAP 5415 – Computer Vision
Programming Assignment 1

IMG 35070 | Kernel Size: 5 | Sigma: 3 | Low Threshold: 5 | High Threshold: 10

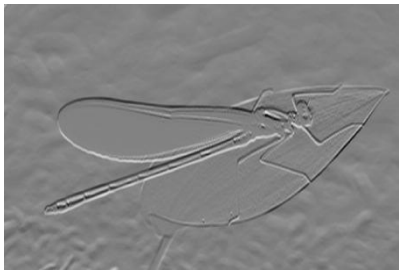
X Conv

Y Conv

X Conv Derivative



Y Conv Derivative



Gradient Magnitude

Hysteresis Thresholding

Non-Max Suppression

Original Greyscale

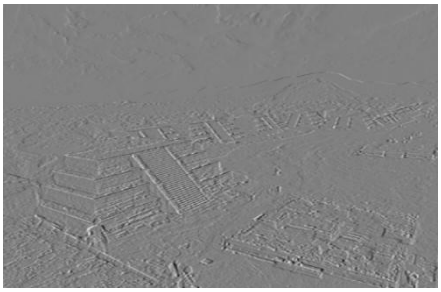
Ehsan Ayoubi
CAP 5415 – Computer Vision
Programming Assignment 1

IMG 33066 | Kernel Size: 5 | Sigma: 1 | Low Threshold: 20 | High Threshold: 23

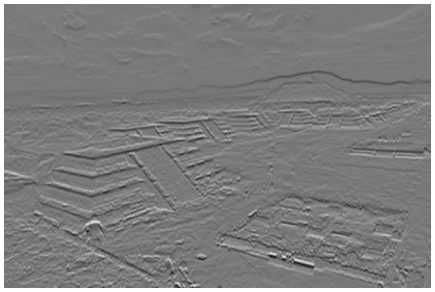
X Conv

Y Conv

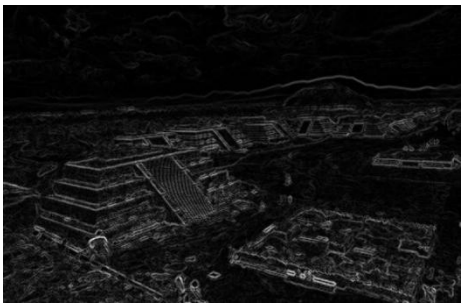
X Conv Derivative



Y Conv Derivative



Gradient Magnitude



Hysteresis Thresholding

Non-Max Suppression

Original Greyscale

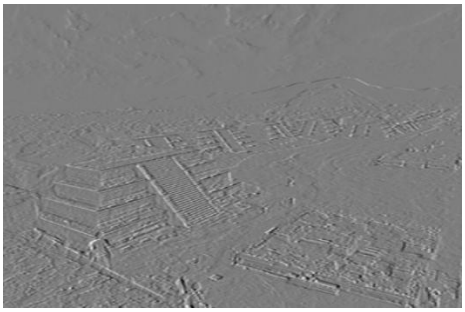
Ehsan Ayoubi
CAP 5415 – Computer Vision
Programming Assignment 1

IMG 33066 | Kernel Size: 5 | Sigma: 2 | Low Threshold: 20 | High Threshold: 23

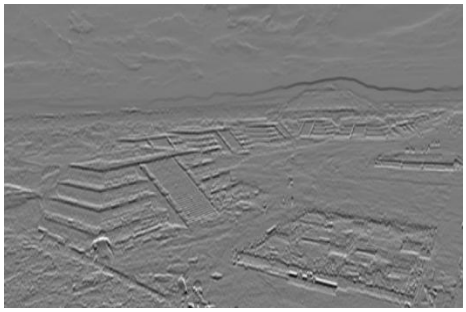
X Conv

Y Conv

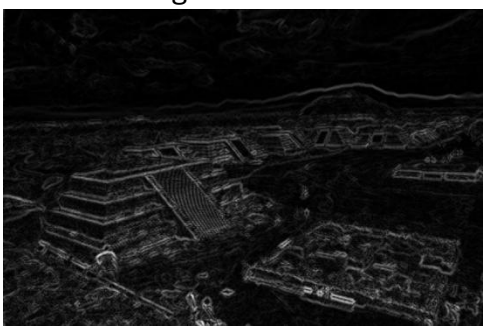
X Conv Derivative



Y Conv Derivative

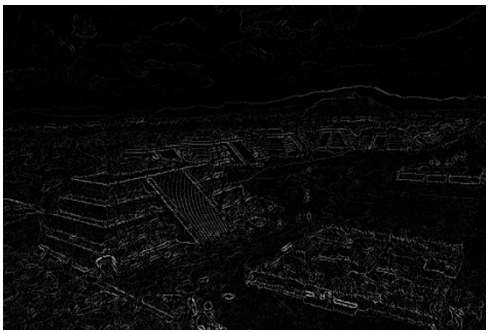


Gradient Magnitude



Hysteresis Thresholding

Non-Max Suppression



Original Greyscale

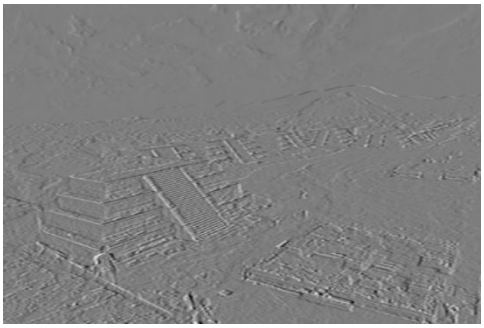
Ehsan Ayoubi
CAP 5415 – Computer Vision
Programming Assignment 1

IMG 33066 | Kernel Size: 5 | Sigma: 3 | Low Threshold: 20 | High Threshold: 23

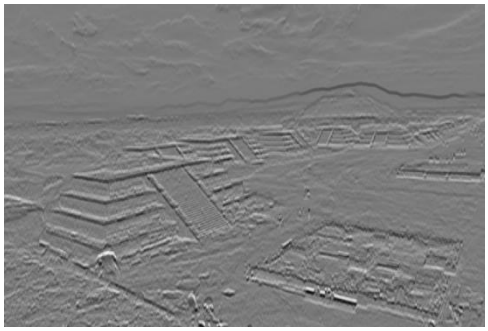
X Conv

Y Conv

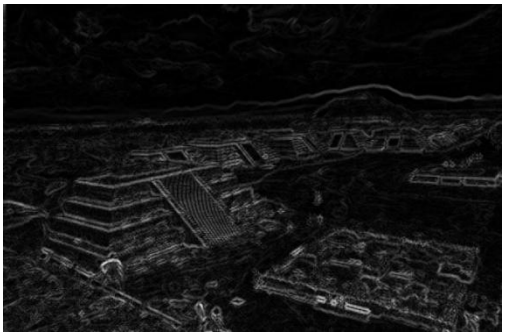
X Conv Derivative



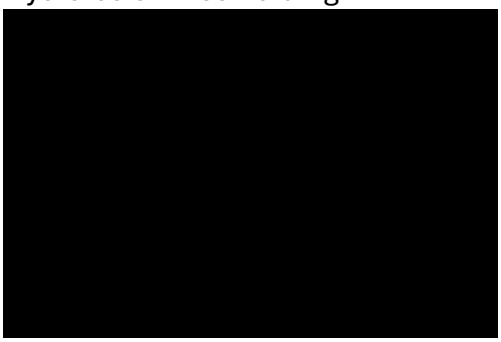
Y Conv Derivative



Gradient Magnitude



Hysteresis Thres holding



Non-Max S uppression

Original Greyscale