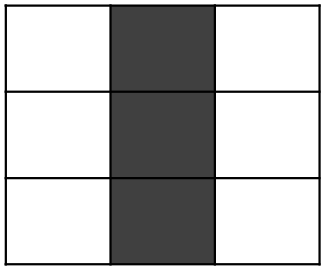
Set

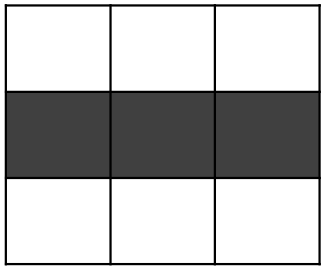
이진영

Intersection

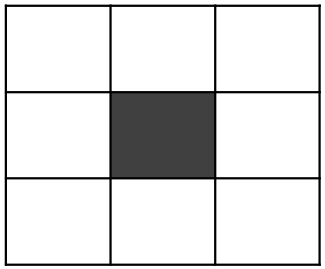
- Largest set which contains all elements that are common in different sets
- Intersection of A and B = Set of elements that are in both A and B



A



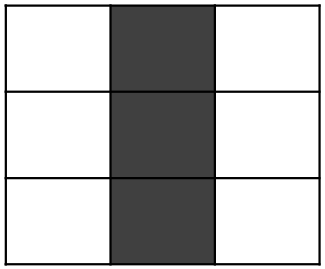
B



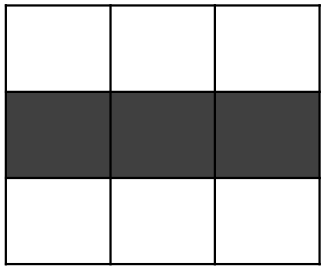
A∩B

Union

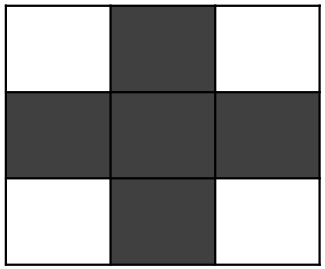
- Smallest set which contains all elements in different sets
- Union of A and B = Set of elements that are in either A or B



A



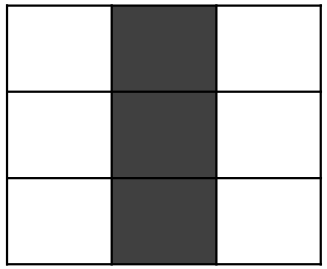
B



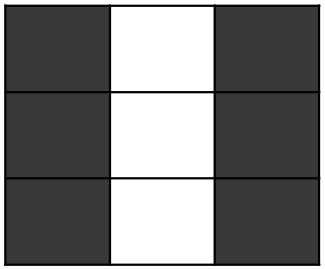
A∪B

Complement

- Set which contains all elements that are not in a given set
- Complement of A = Set of elements that are not in A



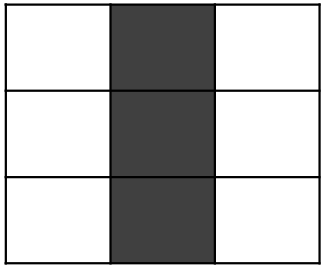
A



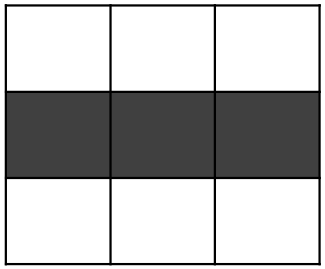
A′

Difference

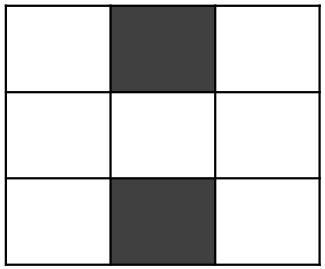
- Set that contains all elements in a given set, which are not elements in the other set
- Difference of A and B = Set of all elements in A that are not in B



A



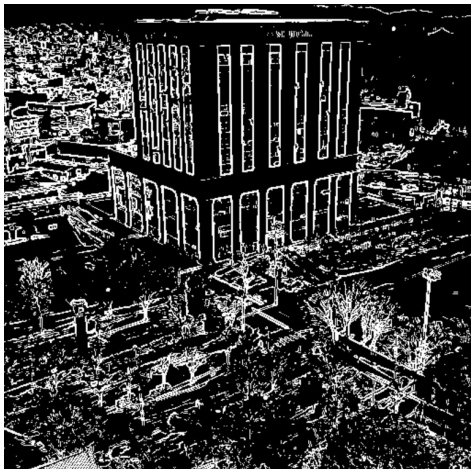
B



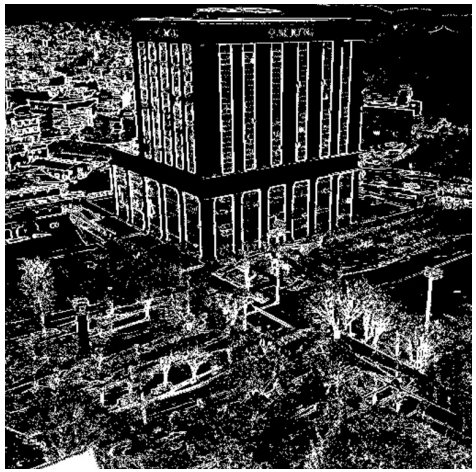
A−B

Experiment

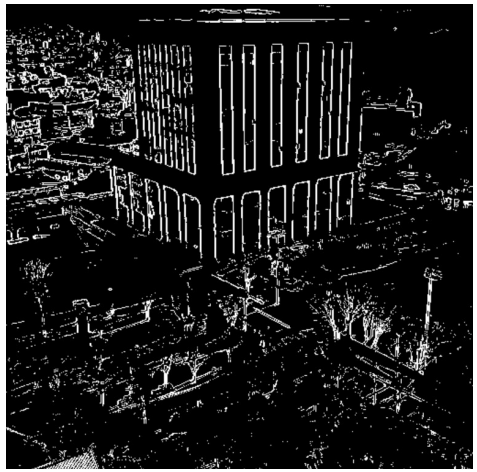
- Generation of one final result, based on multiple results
- Binary edge image of AICenterY.bmp, based on Sobel and Roberts filters
- Intersection and union images using two edge images



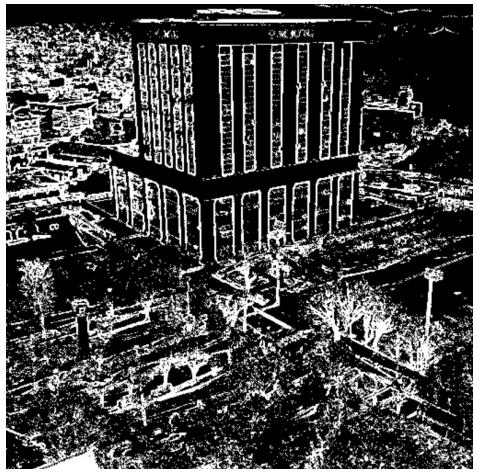
Sobel(200)



Roberts(40)



Intersection

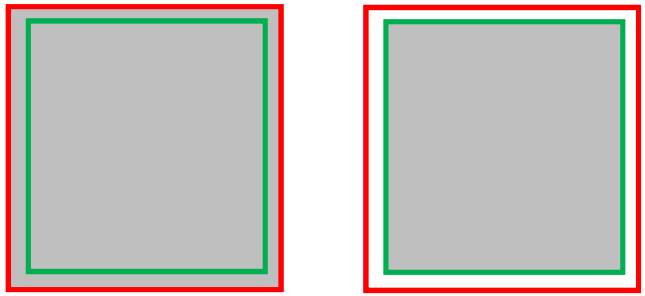


Union

Intersection and Union (IoU)

- Intersection over Union (IoU) in computer vision
- Evaluation metric for object detection and tracking

$$IoU = \frac{A \cap B}{A \cup B}$$



A∪B

A∩B