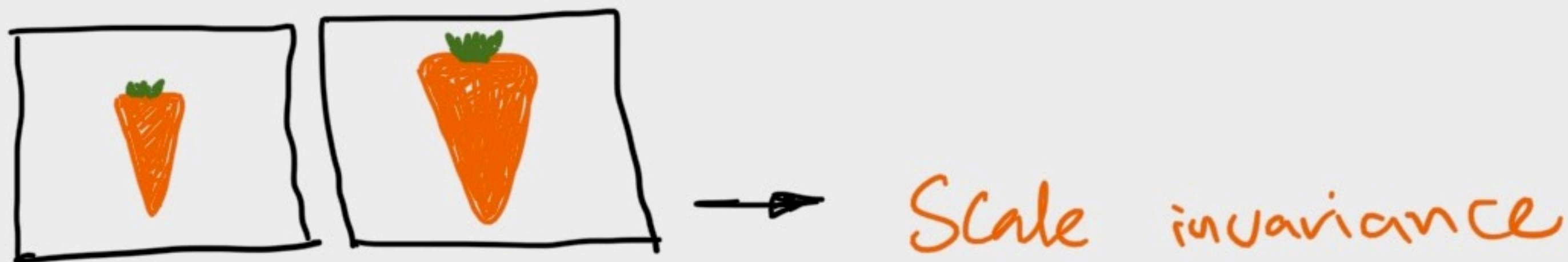


# Invariant Representation



★ Ideally, a model should understand the above.  
CNNs have translation invariance (partial):

5	2	8	5
7	3	9	2
2	1	4	6

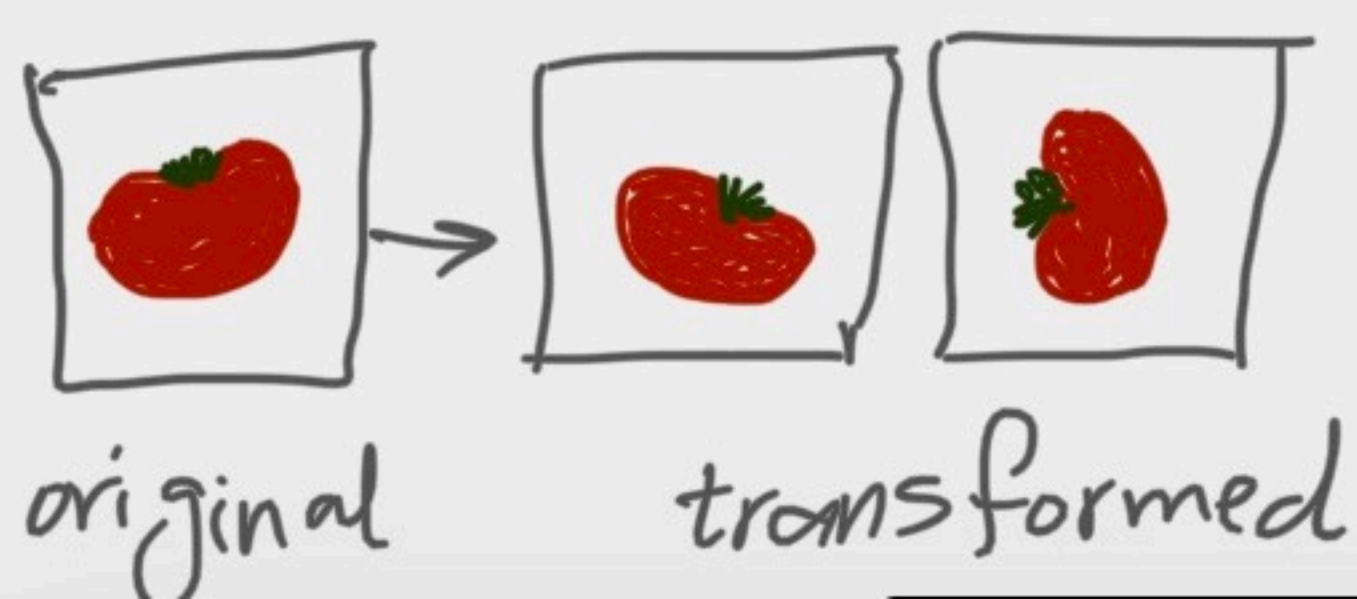
5	2	8	5
7	3	9	2
2	1	4	6

Reason:

a little shifting  
around does not  
change maxpool  
result!

An strategy to make models invariant:

Data Augmentation



Benefits :  
avoiding overfitting  
in creasing the accuracy