## The use of ground-truth dataset for machine learning

\* Without parameter tuning (no validation set)

Traini	Test set			
* With parameter tuning (validation set)				
Training set	Validation	Test set		

K-fold cross validation w/o parameter tuning (no validation set)

	Traini	Test set	
k == 3	Training set	Test set Training set	
Test set Training		ng Set	

K-fold cross validation with parameter tuning (validation set)

	Training set	Validation	Test set
k == 3	Validation	Test set	Training set
	Test set	Training set	Validation

K\*I -fold nested cross validation with parameter tuning (validation

	Training set	Validation	Test set
k == 3	Validation	Training set	rest set
I == 2	Test set	Training set	Validation
	rest set	Validation	Training set
	Validation	Test set	Training set
	Training set	1636 366	Validation

k == 5

I == 2

k == 5

I == 4

K-fold cross validation with parameter tuning (validation set)

	Training set	Training set	Training set	Validation	Test set
	Training set	Training set	Validation	Test set	Training set
k == 5	Training set	Validation	Test set	Training set	Training set
	Validation	Test set	Training set	Training set	Training set
	Test set	Training set	Training set	Training set	Validation

K\*I -fold nested cross validation with parameter tuning (validation

Training set	Training set	Validation	Validation	Test set
Validation	Validation	Training set	Training set	rest set
Training set	Training set	Validation	Test set	Validation
<b>Validation</b>	Validation	Training set	Test set	Training set
Training set	Validation	Test set	Validation	Training set
Validation	Training set	rest set	Training set	Validation
Validation	Test set	Validation	Training set	Training set
Training set	rest set	Training set	Validation	Validation
Test set	Training set	Training set	Validation	Validation
1636366	Validation	Validation	Training set	Training set

K\*I -fold nested cross validation with parameter tuning (validation

Training set	Training set	Training set	Validation		
Training set	Training set	Validation	Training set	Tost set	
Training set	Validation	Training set	Training set	Test set	
Validation	Training set	Training set	Training set		
Training set	Training set	Validation		Training set	
Training set	Validation	Training set	Test set	Training set	
Validation	Training set	Training set	Tr	Training set	
Training set	Training set	Training set		Validation	
Training set	Validation		Training set	Training set	
Validation	Training set	Test set	Training set	Training set	
Training set	Training set	rest set	Training set	Validation	
Training set	Training set		Validation	Training set	
Validation		Training set	Training set	Training set	
Training set	Test set	Training set	Training set	Validation	
Training set	1631 361	Training set	Validation	Training set	
Training set		Validation	Training set	Training set	
Training se		Training set	Training set	Validation	
Test set	Training set	Training set	Validation	Training set	
1631 361	Training set	Validation	Training set	Training set	
	Validation	Training set	Training set	Training set	