

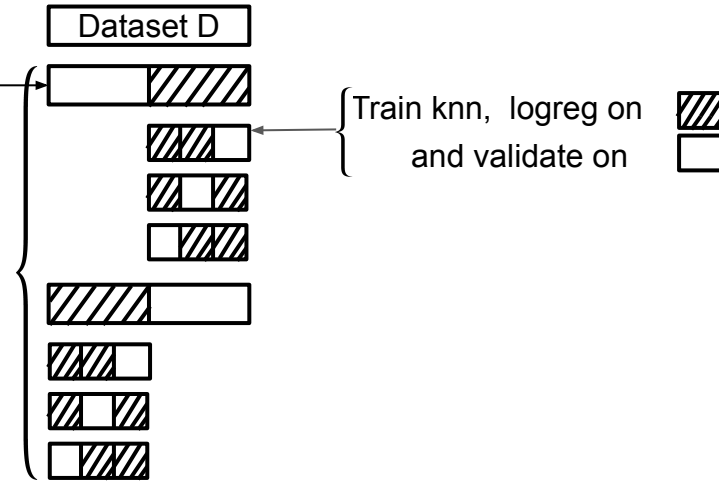




Outer CV

Train winner of
inner CV on 
and test on 



① Estimate \widehat{GE}

Inner CV

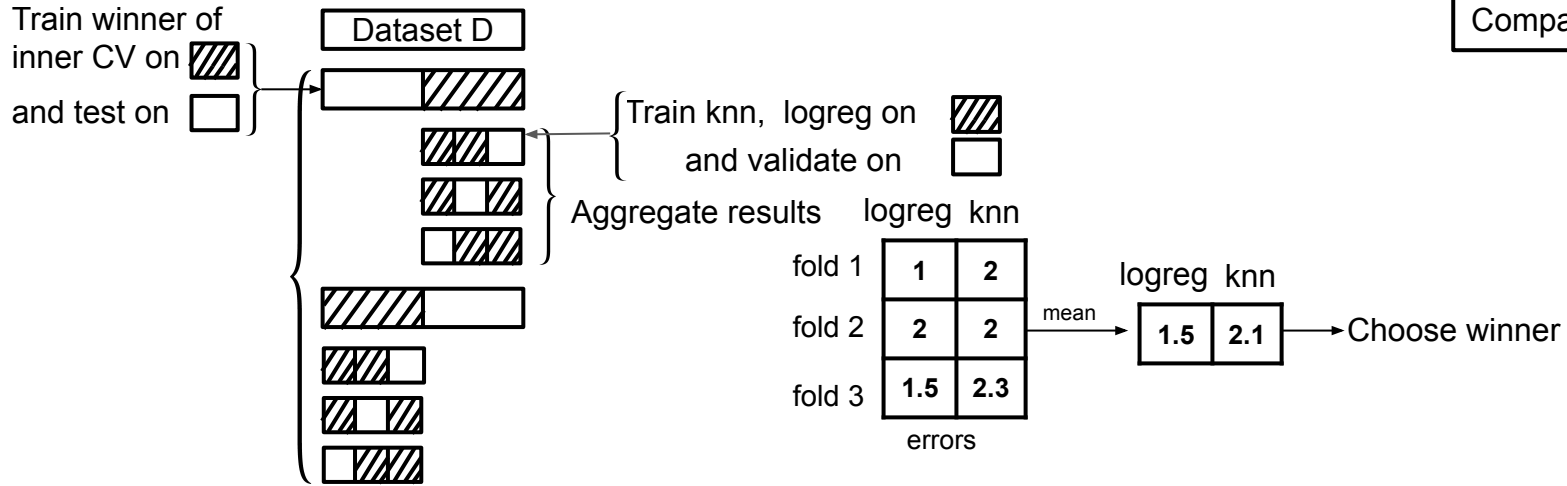
Train knn, logreg on 
and validate on 

Outer folds: 2
Inner folds: 3
Compare: logreg, knn

Outer CV

Inner CV

Outer folds: 2
Inner folds: 3
Compare: logreg, knn





1 Estimate \widehat{GE}

Outer CV

Inner CV

Outer folds: 2
Inner folds: 3
Compare: logreg, knn

Train winner of
inner CV on 
and test on 

Aggregate Errors to
estimate \widehat{GE}

outer fold 1

1.4

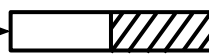
outer fold 2



1.7

 $\xrightarrow{\text{mean}}$

1.6

Dataset D



Train knn, logreg on 
and validate on 

Aggregate results logreg knn

	logreg	knn
fold 1	1	2
fold 2	2	2
fold 3	1.5	2.3
errors		

$\xrightarrow{\text{mean}}$

logreg knn

1.5	2.1
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\rightarrow Choose winner

1 Estimate \widehat{GE}

Outer CV

Inner CV

Outer folds: 2
Inner folds: 3
Compare: logreg, knn

Train winner of
inner CV on 
and test on 

Aggregate Errors to
estimate \widehat{GE}

outer fold 1

1.4

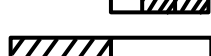
outer fold 2



1.7

 $\xrightarrow{\text{mean}}$

1.6

Dataset D



Train knn, logreg on 
and validate on 

Aggregate results logreg knn

fold 1	<table border="1"><tr><td>1</td><td>2</td></tr></table>	1	2
1	2		
fold 2	<table border="1"><tr><td>2</td><td>2</td></tr></table>	2	2
2	2		
fold 3	<table border="1"><tr><td>1.5</td><td>2.3</td></tr></table>	1.5	2.3
1.5	2.3		
errors			

logreg knn

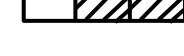
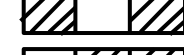
mean	<table border="1"><tr><td>1.5</td><td>2.1</td></tr></table>	1.5	2.1
1.5	2.1		

Choose winner

① Estimate \widehat{GE}

② Choose type of
final model

Dataset D





Choose logreg
or knn

Outer CV

Inner CV

Outer folds: 2
Inner folds: 3
Compare: logreg, knn

Train winner of
inner CV on 
and test on 

Aggregate Errors to
estimate \widehat{GE}

outer fold 1

1.4

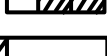
outer fold 2



1.7

 $\xrightarrow{\text{mean}}$

1.6

Dataset D



Train knn, logreg on 
and validate on 

Aggregate results logreg knn

fold 1	<table border="1"><tr><td>1</td><td>2</td></tr></table>	1	2
1	2		
fold 2	<table border="1"><tr><td>2</td><td>2</td></tr></table>	2	2
2	2		
fold 3	<table border="1"><tr><td>1.5</td><td>2.3</td></tr></table>	1.5	2.3
1.5	2.3		
errors			

logreg knn

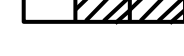
mean	<table border="1"><tr><td>1.5</td><td>2.1</td></tr></table>	1.5	2.1
1.5	2.1		

Choose winner

① Estimate \widehat{GE}

② Choose type of
final model

Dataset D



Choose logreg
or knn

③ Fit final model on Dataset D