

Training set:  
All argument  
pairs until student  
with rank  $r_{T-1}$

Pair id	$arg_{left}$	$arg_{right}$	$label$
...	...	...	...
$p_{29,6}$	...	...	...
$p_{29,7}$	...	...	...
$*p_{30,1}$	$e_{30}$	$e_7$	$arg_{right}$
$p_{30,2}$	$e_7$	$e_4$	$arg_{left}$
$p_{30,3}$	$e_{25}$	$e_7$	$arg_{right}$
$p_{30,4}$	$e_7$	$e_1$	$arg_{left}$
$p_{30,5}$	$e_4$	$e_7$	$arg_{right}$
$p_{30,6}$	$e_7$	$e_{11}$	$arg_{left}$
$p_{30,7}$	$e_{29}$	$e_7$	$arg_{right}$
$p_{31,1}$	$e_{31}$	...	...
$p_{31,2}$	...	...	...
$p_{31,3}$	...	...	...
...	...	...	...
$p_{31,7}$	...	...	...
...	...	...	...

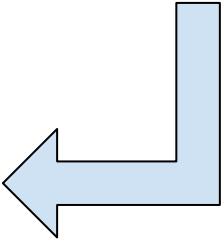
Test set:  
Argument pairs  
made from  
observation of  
student with  
rank  $r_T$

Learn to Rank



Explanation	$Rank\ Score$
...	...
$e_4$	2.17
$e_7$	0.25
$e_{25}$	-0.3
$e_3$	-1
...	...

Ranking  $\sigma(r)$  of all arguments  
with rank  $r_i, i \in [0, T-1]$



Use  $\sigma(r)$  to  
predict labels of  
test set  
(excluding pairs  
with yet unseen  
explanation with  
rank  $r_T$ )