

estimating the importance of each predictor;

- Denoted by  $\hat{e}$  the oob estimate of the loss when using original training set,  $D$ .
- For each predictor  $x_p$  where  $p \in \{1, \dots, k\}$ 
  - Randomly permute  $p^{\text{th}}$  predictor to generate a new set of samples  $D' = \{(y_1^*, x_1'), \dots, (y_N, x_N')\}$
  - Compute oob estimate  $\hat{e}_k$  of prediction error with the new samples.
- A measure of importance of predictor  $x_p$  is  $\hat{e}_k - \hat{e}$ , the increase in error due to random perturbation of  $p^{\text{th}}$  predictor.