

Statistics for Genomic Data Science: Week 3

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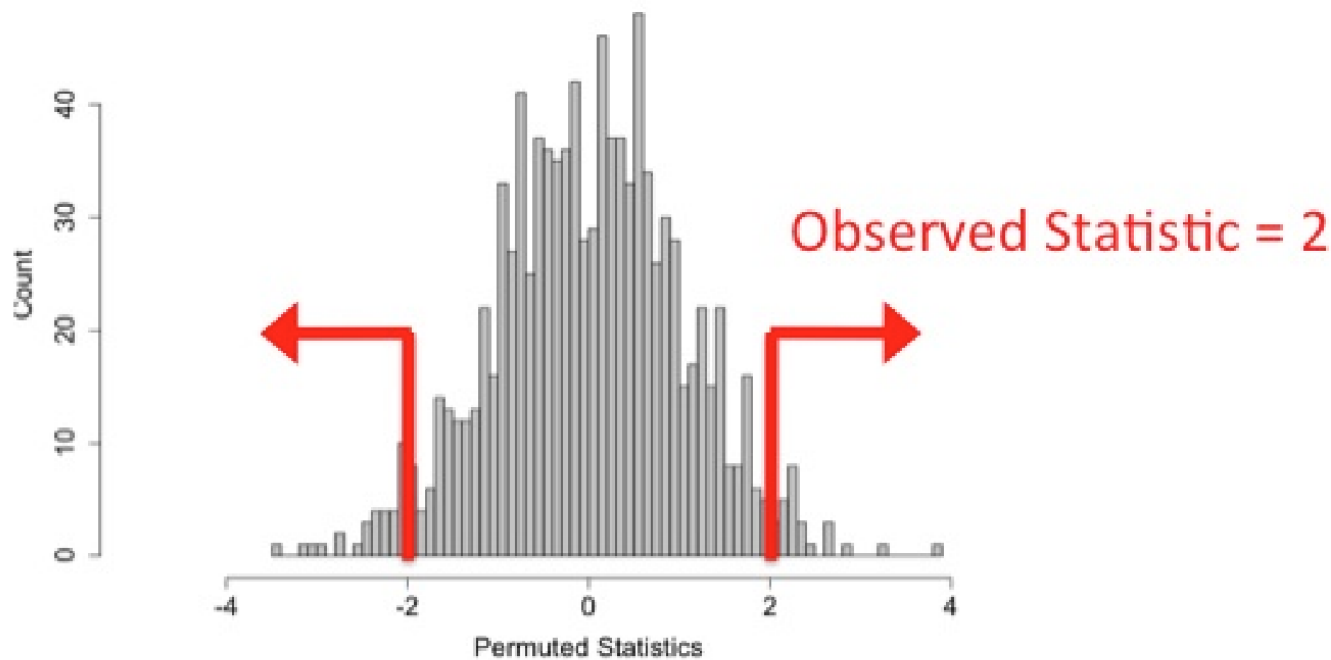
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This week:

More modeling

Statistical significance

Multiple testing



$$P\text{-value} = \frac{\{ \# \mid |S^{perm}| \geq |S^{obs}| \}}{\# \text{ of Permutations}}$$

- Family wise error rate:

$$\Pr(\# \text{ False Positives} \geq 1)$$

- False discovery rate:

$$E \left[\frac{\# \text{ False Positives}}{\# \text{ Of Discoveries}} \right]$$

- EFP (e-values)

$$E[\# \text{ False Positives}]$$