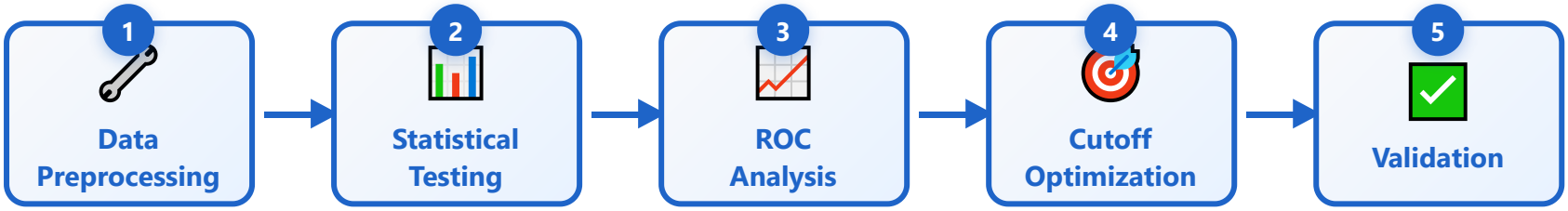
Hands-on: Biomarker Analysis Pipeline



Key Steps

- Normalize and quality control data
- Feature selection with LASSO/elastic net
- Statistical comparison (t-test, ANOVA)
- Multiple testing correction (FDR, Bonferroni)

Performance Metrics

- AUC-ROC for discrimination ability
- Sensitivity, specificity, PPV, NPV
- Cross-validation for robustness
- Independent cohort validation