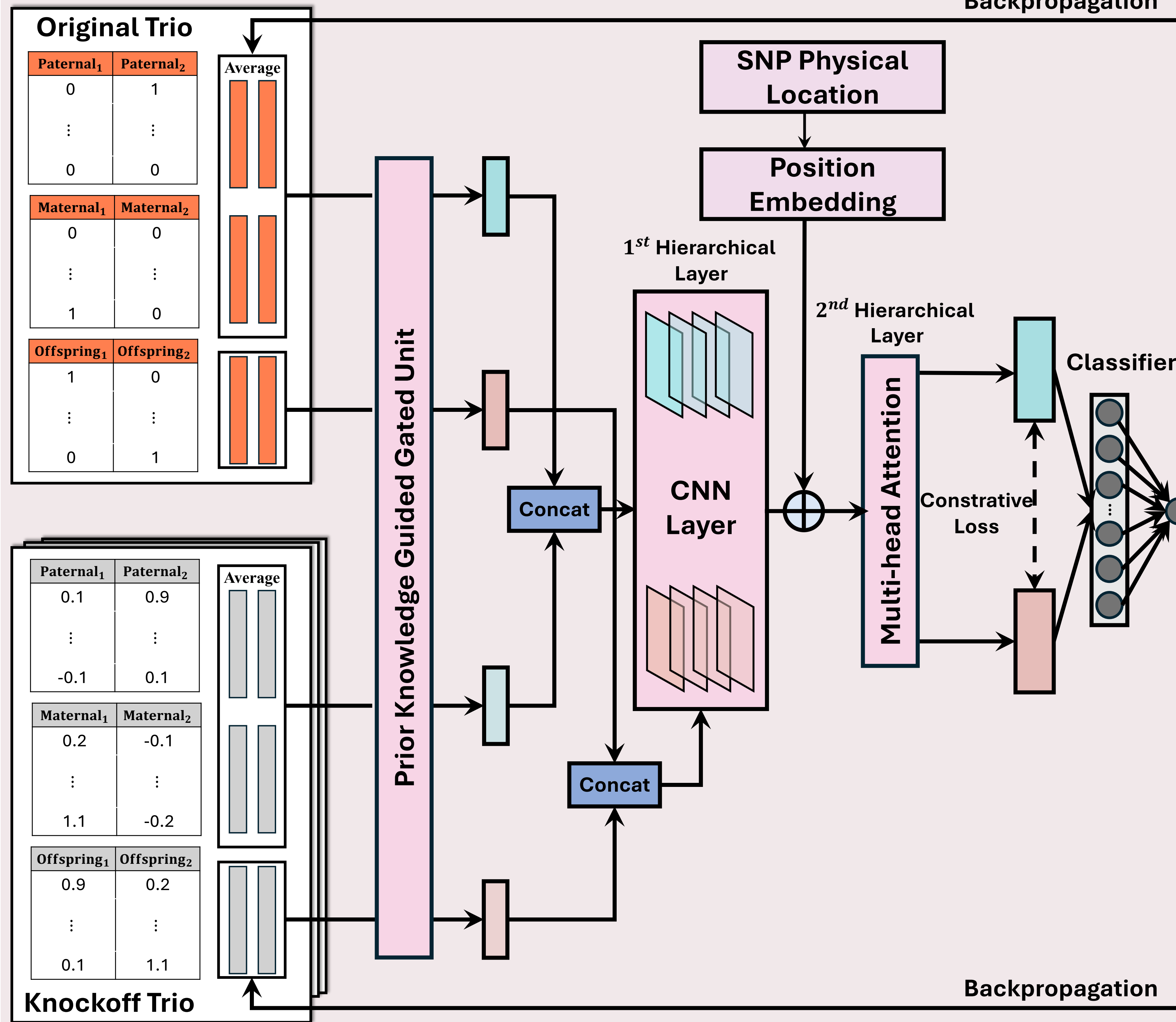


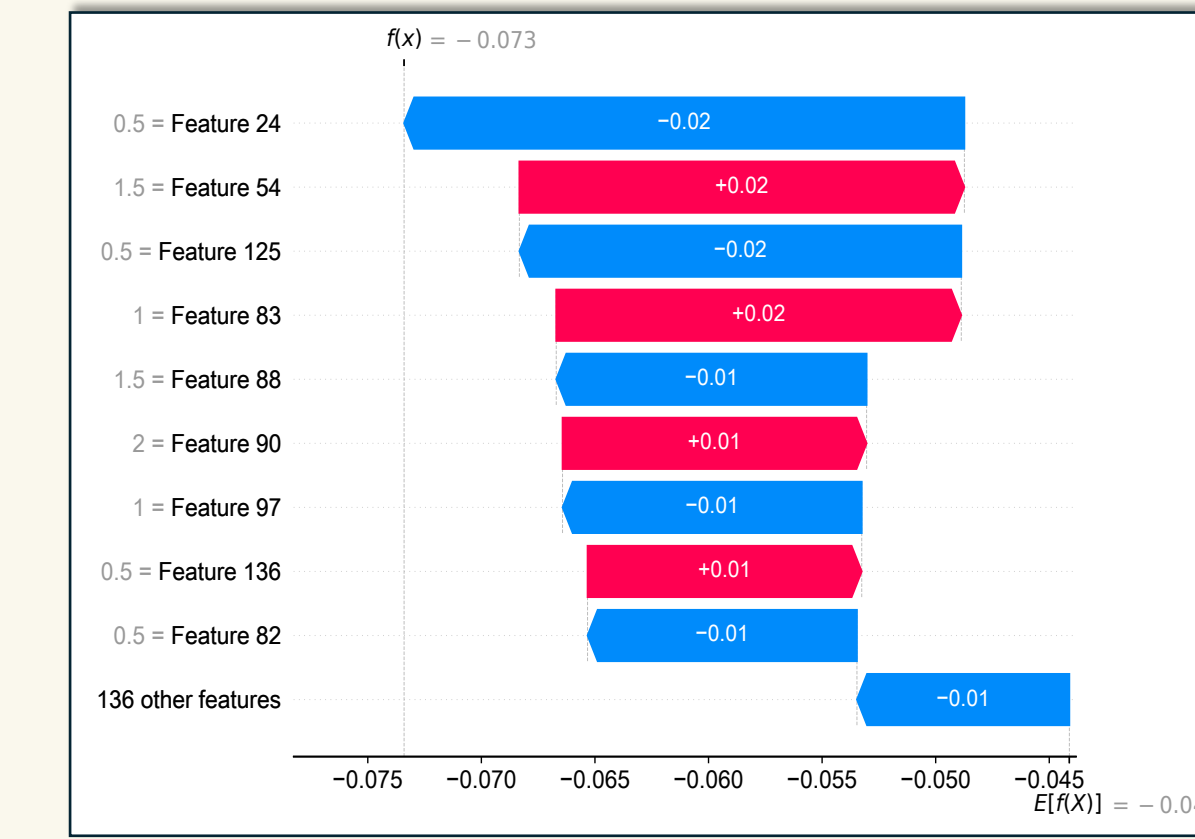
Constructing Knockoff-based DNNs

Backpropagation

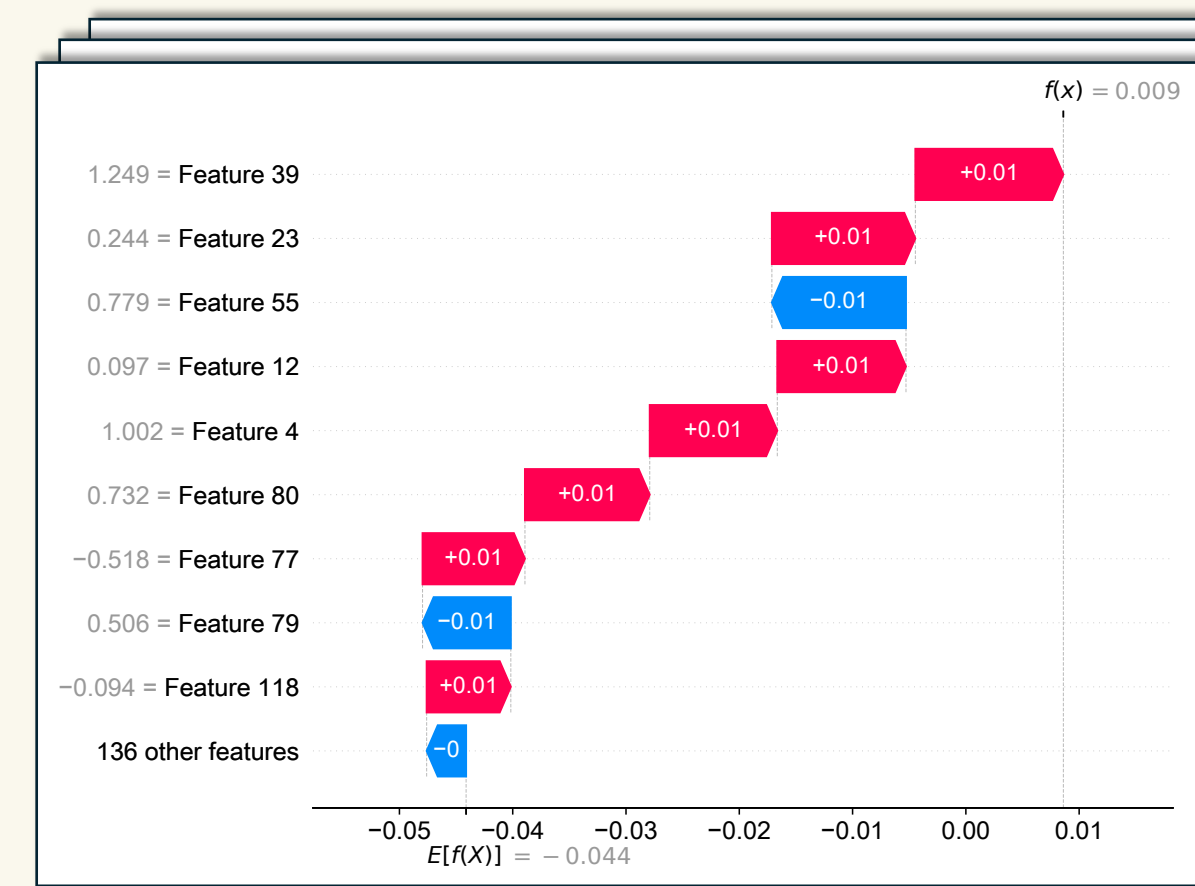


Calculating feature Statistics based on SHAP values

SHAP value of original features



SHAP values of Knockoff copies



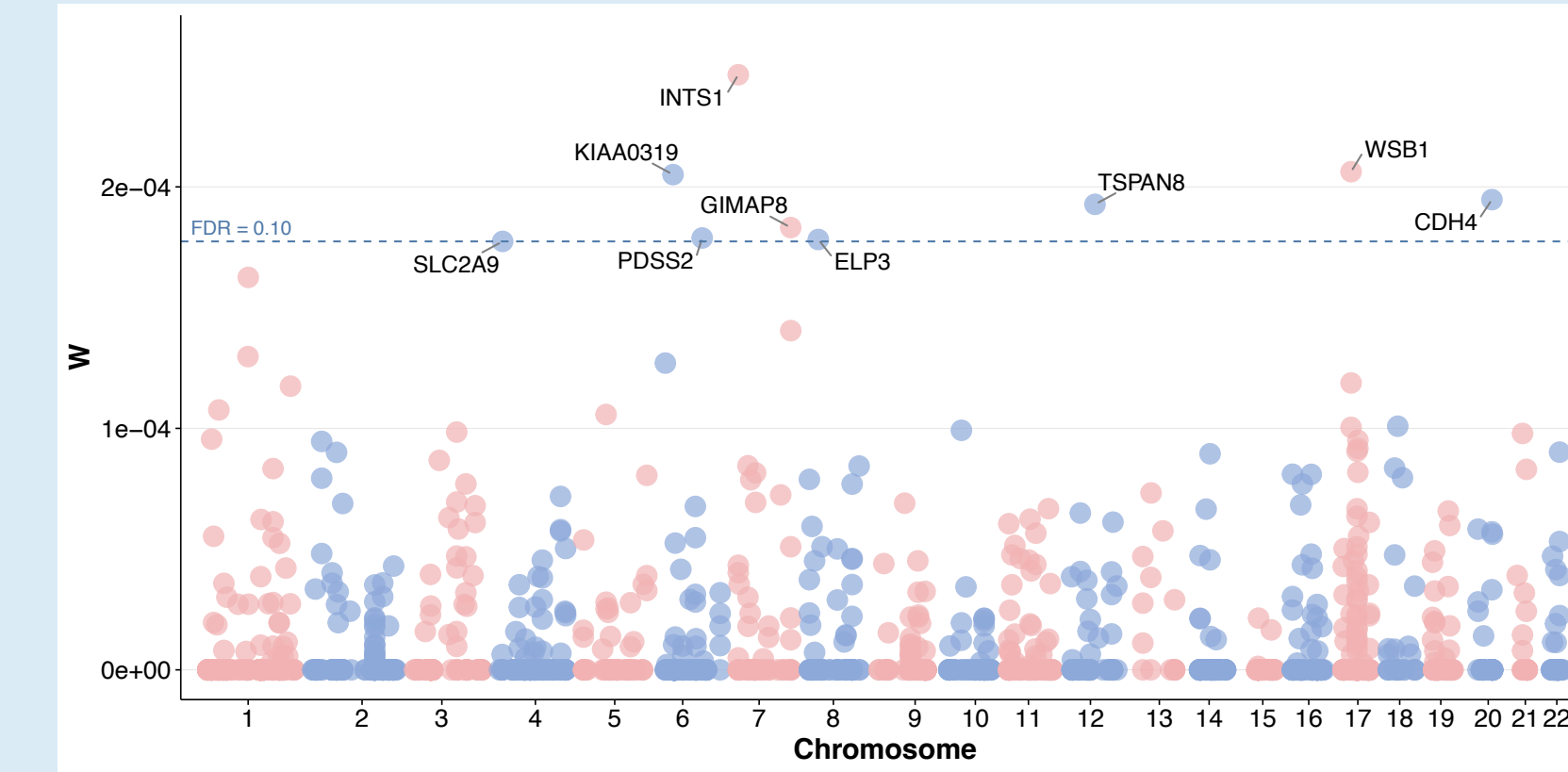
Knockoff Filter

Polygenic Risk Scores

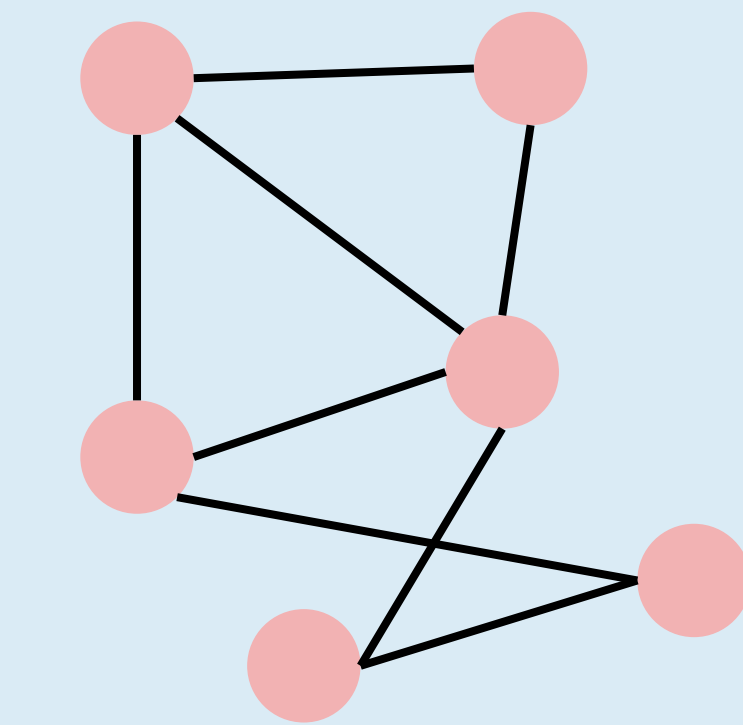
$$PRS_i = \sum_j^{p_{target}} F_{L_j} G_{ij}$$

p_{target} : the number of selected variants under a target FDR level.

From markers to causal genes



Pathway analysis



- ✓ ERK/MAPK Pathway
- ✓ Wnt signaling pathway
- ✓
- ✓ PI3K/mTOR pathway

Details of Siamese encoder

