

The parameters of the proposed method in DREAM4 InSilico Size10

Network 1

xgboost parameters: 'n_estimators': 398, 'learning_rate': 0.0133, 'importance_type': 'weight', 'max_depth': 5, 'n_jobs': -1

alpha: 0.0214

Network 2

xgboost parameters: 'n_estimators': 400, 'learning_rate': 0.0148, 'importance_type': 'weight', 'max_depth': 5, 'n_jobs': -1

alpha: 0.0137

Network 3

xgboost parameters: 'n_estimators': 500, 'learning_rate': 0.628, 'max_depth': 5, 'n_jobs': -1

alpha: 0.00834

Network 4

xgboost parameters: 'n_estimators': 100, 'learning_rate': 0.1648, 'max_depth': 5, 'n_jobs': -1

alpha: 0.0123

Network 5

xgboost parameters: 'n_estimators': 100, 'learning_rate': 0.1654, 'max_depth': 5, 'n_jobs': -1

alpha: 0.0122

The parameters of the proposed method in DREAM4 InSilico Size100

Network 1

xgboost parameters: 'n_estimators': 500, 'learning_rate': 0.0122, 'importance_type': 'weight', 'max_depth': 4, 'n_jobs': -1

alpha: 0.0142

Network 2

xgboost parameters: 'n_estimators': 500, 'learning_rate': 0.0111, 'importance_type': 'weight', 'max_depth': 4, 'n_jobs': -1

alpha: 0.0122

Network 3

xgboost parameters: 'n_estimators': 500, 'learning_rate': 0.012, 'max_depth': 4, 'n_jobs': -1, 'importance_type': 'weight'

alpha: 0.0147

Network 4

xgboost parameters: 'n_estimators': 500, 'learning_rate': 0.0121, 'importance_type': 'weight', 'max_depth': 4, 'n_jobs': -1

alpha: 0.012

Network 5

xgboost parameters: 'n_estimators': 500, 'learning_rate': 0.01, 'importance_type': 'weight', 'max_depth': 5, 'n_jobs': -1

alpha: 0.0192

The parameters of the proposed method in yeast

xgboost parameters: max_depth=5, subsample=0.86, n_jobs=-1, n_estimators=500, 'learning_rate': 0.1207

alpha: 0.627

The parameters of the proposed method in Escherichia coli

Cold

xgboost parameters: max_depth=4, subsample=0.86, n_jobs=-1, n_estimators=120

Heat

xgboost parameters: max_depth=4, subsample=0.86, n_jobs=-1, n_estimators=120, learning_rate=0.008

Oxidative

xgboost parameters: max_depth=4, subsample=0.86, n_jobs=-1, n_estimators=120, learning_rate=0.01

Lactose

xgboost parameters: max_depth=5, subsample=0.86, n_jobs=-1, n_estimators=140, learning_rate=0.02, reg_alpha=0.01