Regression Algorithms Hyperparameters

Regression Algorithms Hyperparameters

Here are the hyperparameters for various regression algorithms that are used to construct the knowledge base:

AdaboostRegressor

```
{
    'n_estimators': [10, 100, 150, 200],
    'learning_rate': [0.01, 0.1, 0.5, 1.0],
    'loss': ['linear', 'square', 'exponential'],
    'estimator': [DecisionTreeRegressor(max_depth=3),
                  DecisionTreeRegressor(max_depth=5)]
}
```

RandomForestRegressor

```
{
    'n_estimators': [100, 200, 250, 400],
    'max_depth': [3, 5, 10, 20]
}
```

SVR

```
{
    'kernel': ['linear', 'rbf', 'poly', 'sigmoid'],
    'C': [1, 2, 3, 5, 10],
    'epsilon': [0.01, 0.05, 0.1]
}
```

LassoRegressor

```
{
    'alpha': np.logspace(np.log10(1e-5), np.log10(2), num=30)
}
```

GaussianProcessRegressor

```
{
    "alpha": [1e-2, 1e-3, 1e-4],
    "kernel": [RBF(length_scale=1.0),
        ConstantKernel(1.0, (1e-3, 1e3)) * RBF(1.0, (1e-2, 1e2)),
        DotProduct(sigma_0=0.1)
    ]
}
```

XGBoostRegressor

```
{
    'n_estimators': [20, 200],
    'max_depth': [2, 7],
    'learning_rate': [0.1, 1],
    'reg_lambda': [0.8, 10],
    'gamma': [0.9, 1.16467595, 2.248149123539492, 3.9963209507789],
    'colsample_bytree': [0.5, 1.0],
    'subsample': [0.1, 1]
}
```

LightgbmRegressor

```
{
    'boosting_type': ['gbdt'],
    'num_leaves': [100, 150],
    'learning_rate': [0.05, 0.5],
    'reg_lambda ': [0, 100],
    'n_estimators': [10, 100, 150, 200],
    'bagging_freq': [1, 2],
    'max_depth': [3, 5],
    'colsample_bytree': [0.8, 1.0],
    'min_gain_to_split': [0.1, 0.5],
    'reg_alpha': [0, 100]
}
```

ElasticNetRegressor

```
{
    'l1_ratio': np.linspace(0.3, 1, 10)
}
```

ExtraTreesRegressor

```
{
    'n_estimators': [50, 512],
    'max_features': [0.2, 1],
    'min_samples_split': [5, 10, 20],
    'min_samples_leaf': [4, 12],
    'bootstrap': [True],
    'criterion': ['friedman_mse'],
    'warm_start': [True]
}
```