## **Implementation**

BruteForceOptimizer optimize() getBestScore() getBestSolution() itereate()

```
Optimizer
optimize() = 0
getBestScore() = 0
getBestSolution() = 0
double score()
vector<Solution> solutionHistory
```

GeneticOptimizer optimize() getBestScore() getBestSolution() generatePopulation()

```
BipartiteOptimizer
optimize()
getBestScore()
getBestSolution()
single_optimize()
iterate()
getAugmentingPath()
updateSolution()
updateEdges()
initEdges()
riderIterate()
matchIterate()
```

# Utility:

SolutionUtils Utils TesterUtils

#### DB Structs:

TimeWindow UserInfo Solution Match Address Location PointInfo Preference Rideshare

### Route

startLoc() endLoc() getLoc() numLocs()  $get_type() = 0$ UserPreference userPref RoutePreference routePref

#### RouteSubmission

setComment() setUserInfo() get\_type() uint32\_t routeId uint32\_t userId double optimalDistance UserInfo userInfo

#### RiderRouteSubmission

DriverRouteSubmission size\_t capacity

#### Optimizers:

Optimizer BruteForceOptimizer GeneticOptimizer BipartiteOptimizer

### Optimizer Structs:

CompatibilityMatrix RouteMatrix RouteMatrixLocal

#### Testing:

TesterUtil TestCases

## Class List

Address BipartiteOptimizer BruteForceOptimizer CompatibilityMatrix **DBAccess** DriverRouteSubmission GeneticOptimizer Location Match Optimizer PointInfo Preference RiderRouteSubmission Rideshare RouteClient Route RouteInfo RouteMatrix RouteMatrixLocal RouteOptimizer RoutePreference RouteSubmission Solution SolutionUtils TestCases TesterUtil TimeWindow UserInfo UserPreference Utils