UML Class Diagram

+ AStar(rpm1:double, rpm2:double, dt:double)

+ backTrack(nodeInfo:vector<vector<double>>):

goalPoint:vector<double>) : vector<vector<double>>

+ motionModel(): vector<vector<double>>

+ aStar(startPoint:vector<double>,

<<destructor>>

<<methods>>

vector<vector<double>>

+ ~AStar()

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ObstacleMap - x : double - y : double - robotRadius : double <<constructor>> + ObstacleMap() + ObstacleMap(x:double, y:double) <<destructor>> + ~ObstacleMap() <<methods>> + setRadius(radius:double): void + getRadius() : double + createRectangles(): bool + createCircles() : bool + createTables(): bool + drawBoundary(): bool **AStar** + createMap(): vector<double> - map : ObstacleMap - node : NodeParam - rpm1 : double - rpm2 : double - dt : double <<constructor>> + AStar()

NodeParam - currentNode : double - parentNode : double - gCost : double - hCost : double - totalCost : double - theta : double - dtheta : double - dx : double - dy : double <<constructor>> + NodeParam() <<destructor>> + ~Nodeparam() <<methods>> + setCurrent(current :double) : void + getCurrent() : double + setParent(parent :double) : void + getParent() : double + setGCost(costToGo :double) : void + getGCost() : double + setHCost(costToCome :double) : void + getHCost() : double + setTotalCost(total :double) : void + getTotalCost() : double + setTheta(th :double) : void + getTheta() : double + setDtheta(dth :double) : void + getDtheta() : double + setDx(dX :double) : void + getDx() : double + setDy(dY :double) : void

+ getDy(): double