Main classes

Robot

- net_input_shape : vector<int> = [416, 416]
- transformation_matrix : vector <double>
- path_to_model_weights : string
- path_to_model_congfiguration : string
- pixel_to_meter : double
- area_to_depth : double

+ detectHumans() : int
- prepFrame(vector<Mat>) : vector<Mat>
- transformToRobotFrame(vector<double>, vector<double>, double, double) : vector<double>

HumanDetector

- confidence_threshold : double
- nms_threshold : double

+ detection(Net) : vector<Mat>
+ postProcess(vector<Mat>, vector<Mat>) : vector<Rect>
+ drawBoundingBoxes(int, vector<double>, vector<double>, vector<Mat>) : int
- getOutputsNames(const Net& net) : vector<string>

**Note**:
Mat, Rect and Net are composite datatypes used from OpenCV packages

Test Classes (All methods made public for unit testing)

Test_Robot

- net_input_shape : vector<int> = [416, 416]
- transformation_matrix : vector <double>
- path_to_model_weights : string
- path_to_model_congfiguration : string
- pixel_to_meter : double
- area_to_depth : double

+ detectHumans() : int
+ prepFrame(vector<Mat>) : vector<Mat>
+ transformToRobotFrame(vector<double>, vector<double>, double, double) : vector<double

test_HumanDetector

- confidence_threshold : double
- nms_threshold : double

+ detection(Net) : vector<Mat>
+ postProcess(vector<Mat>, vector<Mat>) : vector<Rect>
+ drawBoundingBoxes(int, vector<double>, vector<double>, vector<Mat>) : int
+ getOutputsNames(const Net& net) : vector<string>