# UML_class_diagram

Rohan Singh, Arjun Gupta | October 13, 2019

## VisionModule

---

+ applyGaussianFilter(cv::Mat, int, float) : cv::Mat
+ applyMeanFilter(cv::Mat, int) : cv::Mat
+ applyGaussianFilter(cv::Mat, int) : cv::Mat
+ reshape(cv::Mat, std::pair<int, int>) : cv::Mat
+ nonMaximalSuppression(cv::Mat,
std::vector<std::vector<float>>) : std::vector<std::vector<float>>

## IOHandler

---

- inputChoice : int
- inputFileName : std::string
- inputDiretoryPath : std::string
- outputDirectoryPath : std::string
- ouputFile : std::fstream

---

+ IOHandler() : void
+ ~IOHandler() : void
+ getInputChoice() : int
+ getInputFilePath() : std::string
+ getOuputFilePath() : std::string
+ getCameraParams() : Camera
+ getDeviceID() : int
+ saveOutput(std::vector<std::vector<float>>) : int
+ getFrame() : cv::Mat

## DetectionModule

---

- camera : Camera
- network : Network
- tf : Transformation
- interface : Interface
-  detectedObjects : std::vector<std::vector<float>>
- inputChoice : int

---

+ DetectionModule() : void
+ DetectionModule(Interface, Camera) : void
+ detectObjects() : int
+ preProcessImage(cv::Mat) : cv::Mat
+ postProcessImage(std::vector<cv::Mat>) : cv::Mat
+ getInput() : int

## Transformation

---

- baseFrame : cv::Mat
- endFrame : cv::Mat

---

+ Transformation() : void
+ Transformation(cv::Mat, cv::Mat) : void
+ ~Transformation() : void
+ endToBase(cv::Mat) : cv::Mat
+ baseToEnd(cv::Mat) : cv::Mat
+ getBaseFrame() : cv::Mat
+ getEndFrame() : cv::Mat

## Camera

---

- cameraID:int
- calibrationMatrix:cv::Mat
- resolution:std::pair<int,int>

---

+  Camera() : void
+ ~Camera() : void
+ displayInfo() : void
+ isActive() : bool
+ getID() : int
+ getCalibrationMatrix() : cv::Mat
+ getResolution() : std::pair<int, int>

## Network

---

- weightsFilePath : std::string
- configurationFilePath : std::string
- classFilePath : std::string

---

+ Network() : void
+ ~Network() : void
+ createNetworkInput(cv::Mat) : cv::Mat
+ applyYOLONetwork(cv::Mat) :
std::vector<cv::Mat>