## **Traffic Lane Detection**

## Lane

-polyOrder : int
-colour : std::string

-polyCoeff : std::vector<float>
-startCoordinates : cv::Point
-averagingCenter : std::vector<int>

-averagingCount : int-currentAveragingIndex : int

-status : bool

+Lane() +~Lane()

+Lane(int, std::string, int) +getStableCenter(int): int

+setStartCoordinate(cv::Point) : void +getStartCoordinate() : cv::Point

+setStatus(bool) : void +getStatus() : bool

+setPolyOrder(int) : void

+getPolyOrder(): int +setPolyCoeff(cv::Mat): void

+getPolyCoeff(): std::vector<float>

## -yellowMin : cv::Scalar

-yellowMax : cv::Scalar -grayscaleMin : int -grayscaleMax : int -videoName : std::string

+LaneDetectionModule()

+~LaneDetectionModule()

+undistortImage(cv::Mat&,cv::Mat&): void +thresholdImageY(cv::Mat&,cv::Mat&): void

+thtesholdImageW(cv:Mat&,cv::Mat&): void

+extractROI(cv:Mat&,cv::Mat&): void

+transformPerspective(const cv::Mat& , cv::Mat& , cv::Mat& , cv::Mat&): void

LaneDetectionModule

+extractLanes(const cv::Mat&, cv::Mat&, Lane&, Lane&, int): void

+fitPoly(const std::vector<cv::Point>&, cv::Mat&, int) : void

+getDriveHeading(Lane&, Lane&, std::string&): double

+displayOutput(const cv::Mat& , cv::Mat& , Lane& ,Lane& , cv::Mat) : void

+detectLane(std::string) : bool +getYellowMax() : cv::Scalar

+getYellowMin() : cv::Scalar

+setYellowMax(cv::Scalar) : void

+setYellowMin(cv::Scalar) : void

+setGrayScaleMin(int): void

+setGrayScaleMax(int): void

+getGrayScaleMin(): int +getGrayScaleMax(): int

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