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(int , std::string, int)

+virtual ~Lane()

+virtual getStableCenter(int): int

+virtual setStartCoordinate(cv::Point) : void

+virtual getStartCoordinate() : cv::Point

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

+virtual setPolyOrder(int) : void

+virtual getPolyOrder() : int

+virtual setPolyCoeff(cv::Mat) : void

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

LaneDetectionModule

-yellowMinx: cv:scalar -yellowMax: cv:scalar -grayscaleMin:int -grayscaleMax:int -videoName :std::sring

+LaneDetectionModule()

+~LaneDetectionModule()

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

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

+transformPerspective(const cv::Mat& , cv::M

+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&,SteerDrive&): double

+computeGearRatio(SteerDrive&): float

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