Vehicle Control Model

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1 Summary

The vehicle control model contains the decision making for controlling the vehicle. We use the lane error, we got from the lane model, to proportionally control the steering and driving. The signs, we get from our sign detection model, are pushed to a queue and, handled by the drive controller. Currently, we are only reacting to stop signs. If a stop sign is detected, the drive controller outputs a drive value which stops the vehicle. The final drive and steering values, determined by the drive and steering controllers, are sent over I2C to the Arduino which maps the values to a pulse-width to control the steering servo and the Electronic Speed Controller for the drive motor.

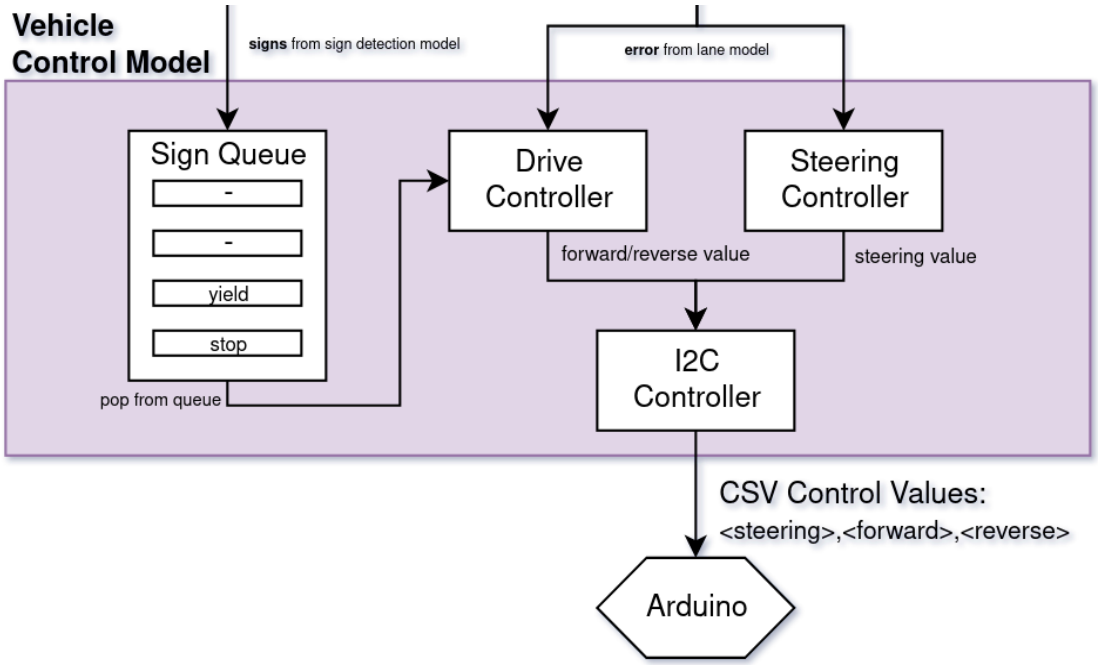

Fig. 1. Lane error and detected signs are used to control the driving and steering values send to the Arduino over I2C.