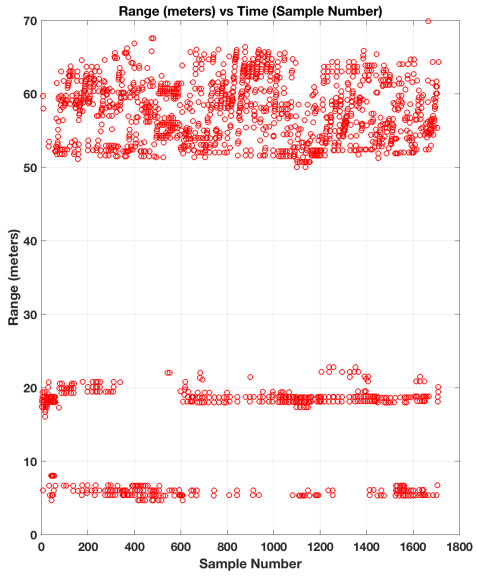
ADVANCED LANE FINDING

The following is a description of each step in a software pipeline designed to identify lane boundaries from a front-facing camera. The processing steps include:

- **Distortion Correction:** Correct image distortion produced by camera.
- **Image Thresholding:** Create a binary image that only includes lane pixels by processing image color gradient information within a region of interest.
- **Perspective Transformation:** Rectify the binary image to a “bird’s eye-view”.
- **Lane Segmentation and Curve Fitting:** Detect right/left lanes and fit boundary curves using information from previous frames when appropriate.
- **Curvature and Position Estimation:** Determining lane curvatures and vehicle position.
- **Visual Display:** Warping detected lane boundaries onto the original image.

DISTORTION CORRECTION



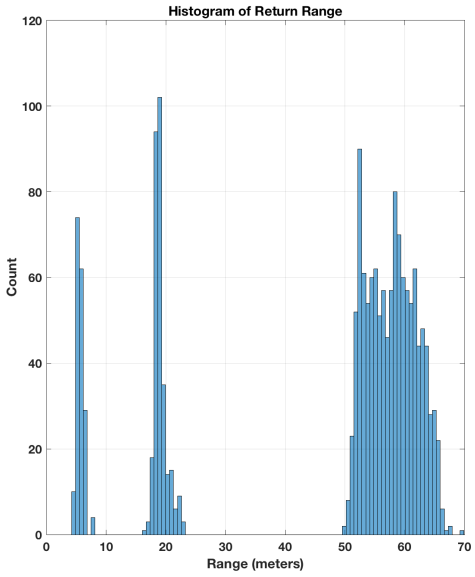


IMAGE THRESHOLDING

PERSPECTIVE TRANSFORMATION

LANE SEGMENTATION AND CURVE FITTING

CURVATURE AND POSITION ESTIMATION

VISUAL DISPLAY