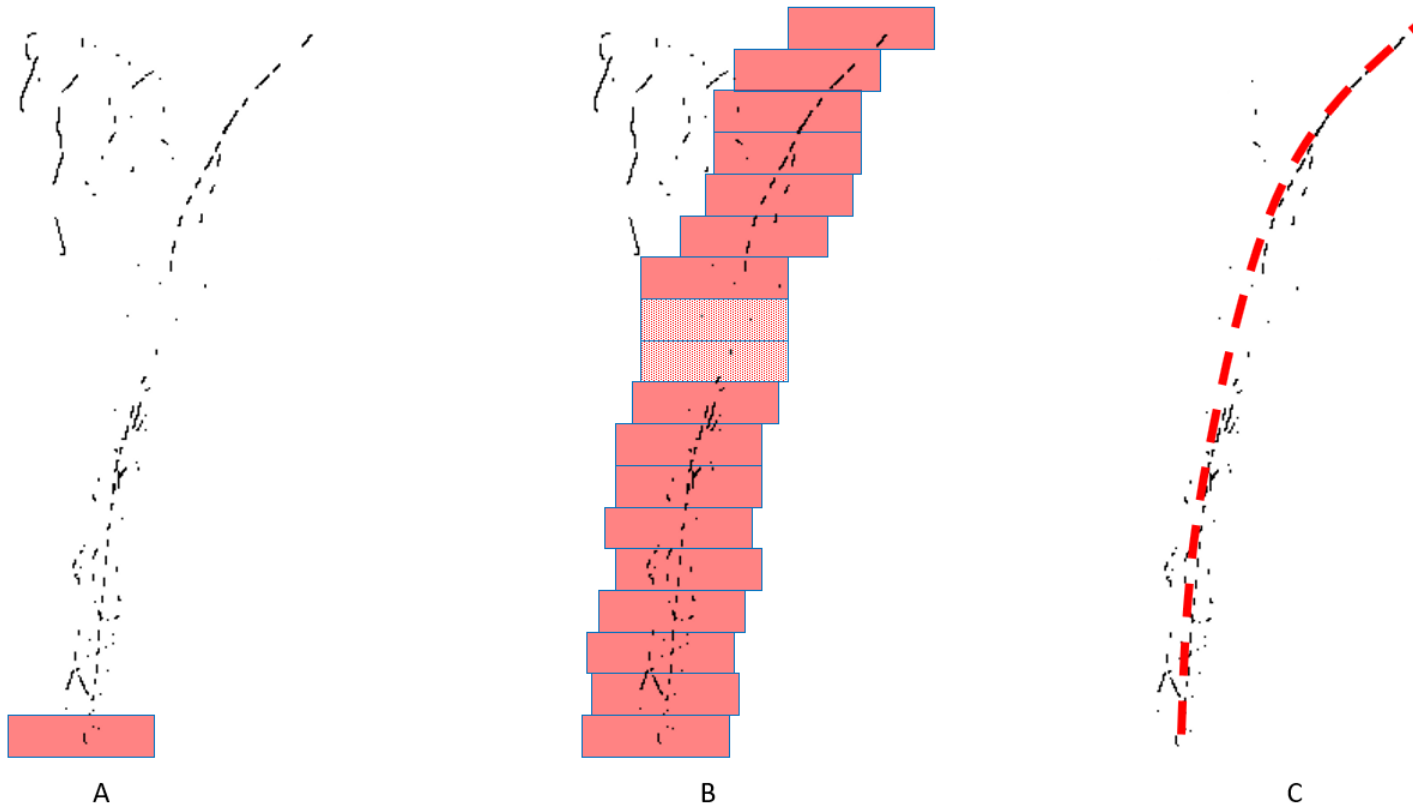


## Sliding window approach for curved lane detection



After the road image has undergone inverse perspective transformation and thresholded edge detection, the start point for the sliding window is determined based off the peak locations of edge pixels at the bottom of the image. Image A shows the first sliding window in position over the detected pixels. The window is the local area of interest considered where edge pixels are counted and the horizontal location is averaged.

Each subsequent window is positioned at the horizontal average of the pixels in the preceding window as per image B. If the quantity of pixels present in a window is less than a minimum threshold, the previous window average is used, as per the two hatched windows in image B. The sliding window continues until the edge of the image is reached.

The pixels contained within the windows are then used as input for a polynomial regression to determine the curvature of the lane as per image C. Note that pixels outside the window are discarded for the regression calculation. This occurs for both sides of the lane independently.