```
% Step 1: Loading  the Image
imagePath = 'ford.jpg';
img = imread(imagePath);

% Step 2:Grayscale conversion
if size(img, 3) == 3
    imgGray = rgb2gray(img);
else
    imgGray = img;
end

imgNormalized = double(imgGray) / 255;

% Step 3: Quantization to 32 Levels
numLevels = 32;
quantized_values = floor(imgNormalized * numLevels);
quantized_Image = quantized_values / (numLevels - 1);

% Step 4: Scale Back to 0-255 Range
quantized_Image = uint8(quantized_Image * 255);
% Displaying the Original and Quantized Images
figure;
subplot(2, 4, 2);
imshow(imgGray);
title('Grayscale Image');

subplot(1, 3, 3);
imshow(quantized_Image);
title('Image after Quantizing to 32 Levels');
```

Grayscale Image

Image after Quantizing to 32 Level