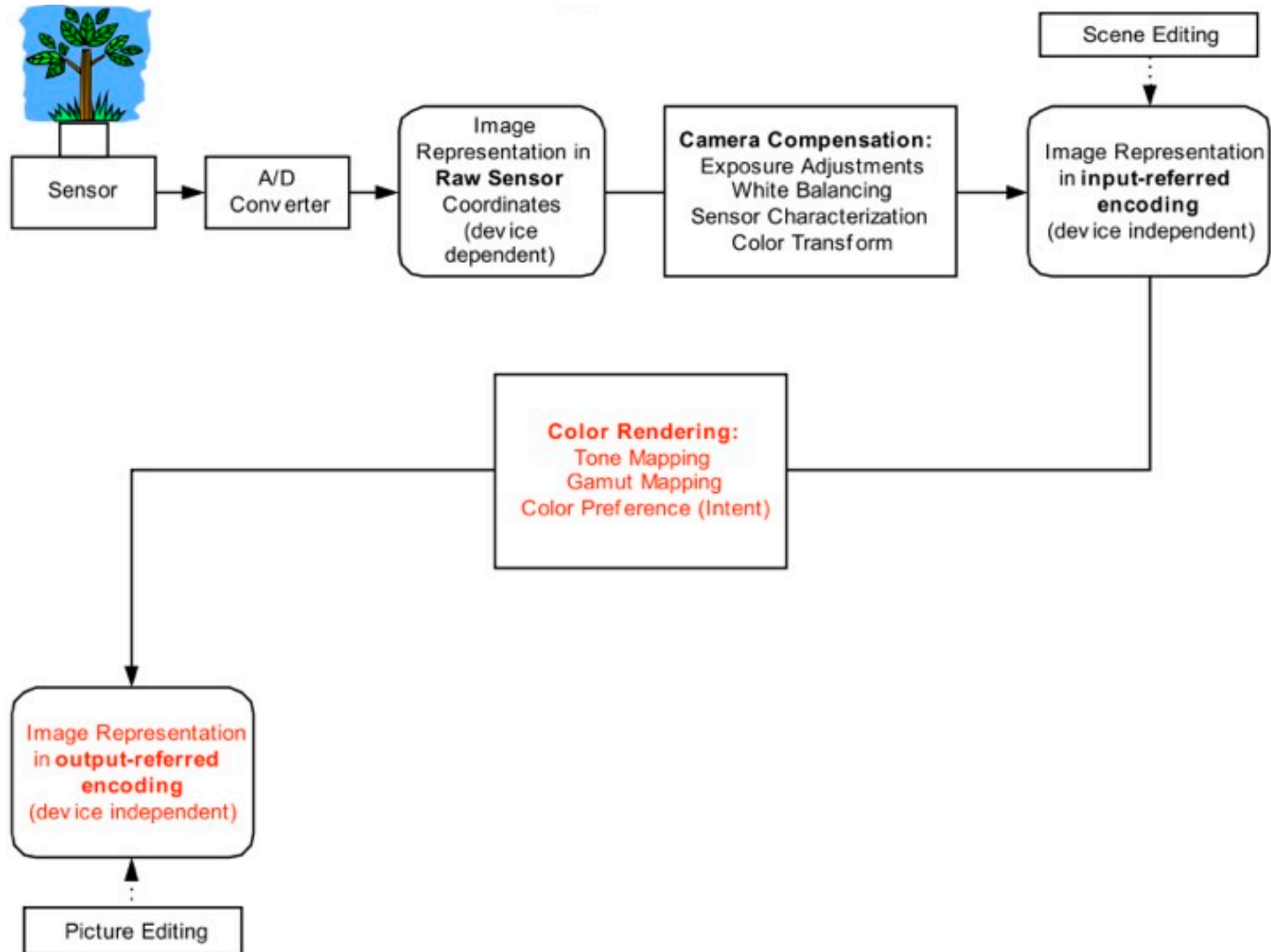


In-camera Processing Pipeline

Exercise 4

Camera Pipeline



Denoising

Gaussian noise

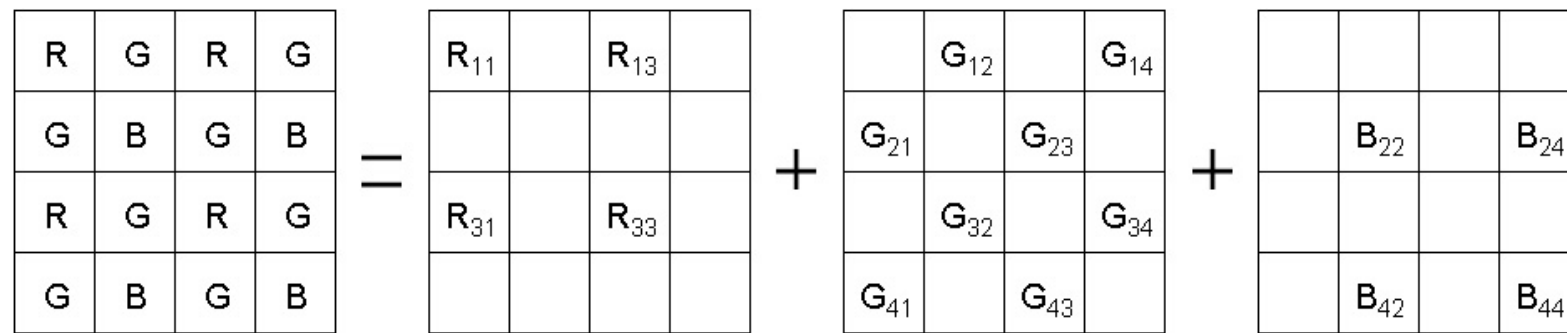


Filtered Image



Demosaicing

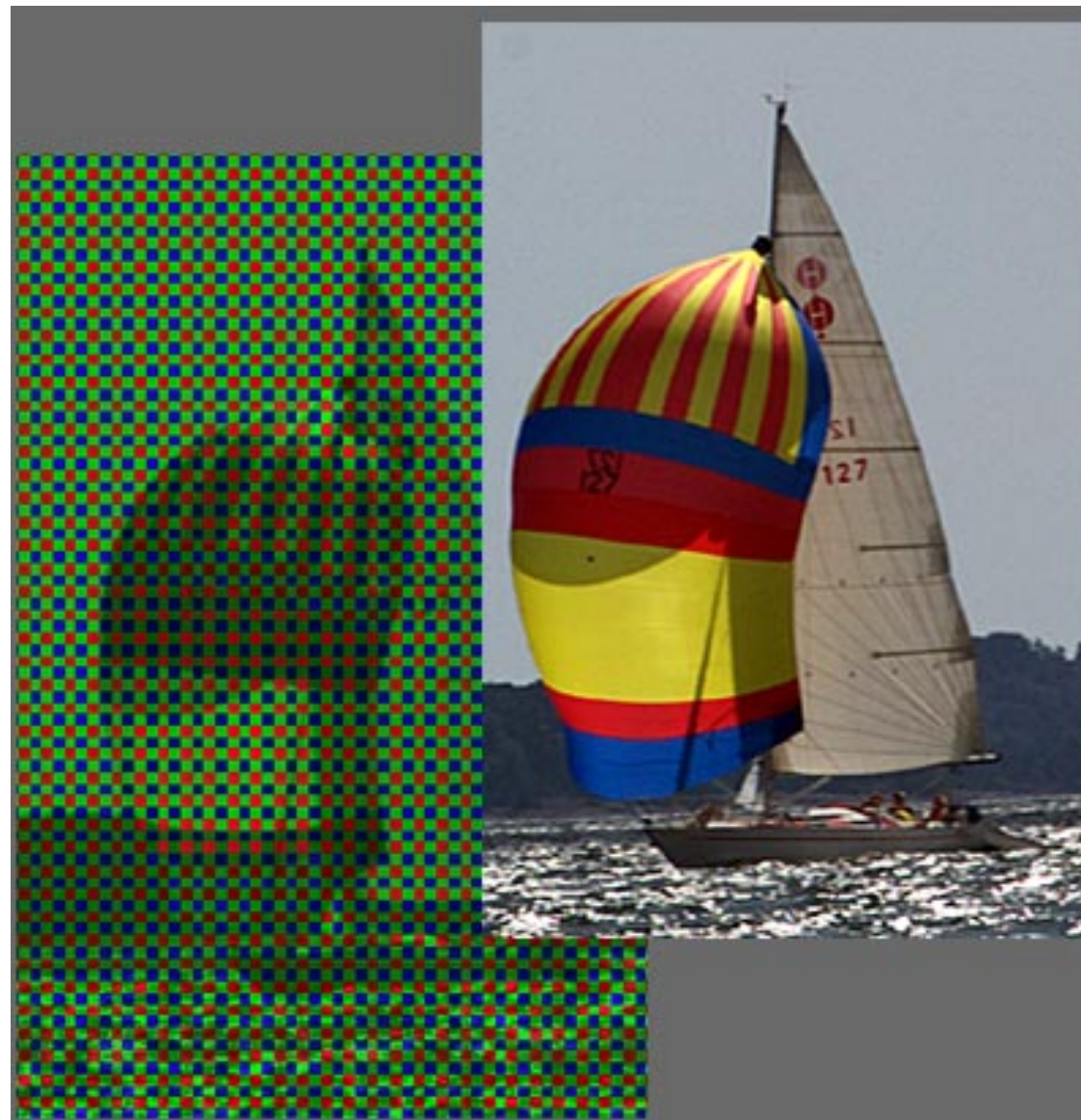
Interpolation
Filters



$$F_{R,B} = \frac{1}{4} \begin{bmatrix} 1 & 2 & 1 \\ 2 & 4 & 2 \\ 1 & 2 & 1 \end{bmatrix} \quad F_G = \frac{1}{4} \begin{bmatrix} 0 & 1 & 0 \\ 1 & 4 & 1 \\ 0 & 1 & 0 \end{bmatrix}$$

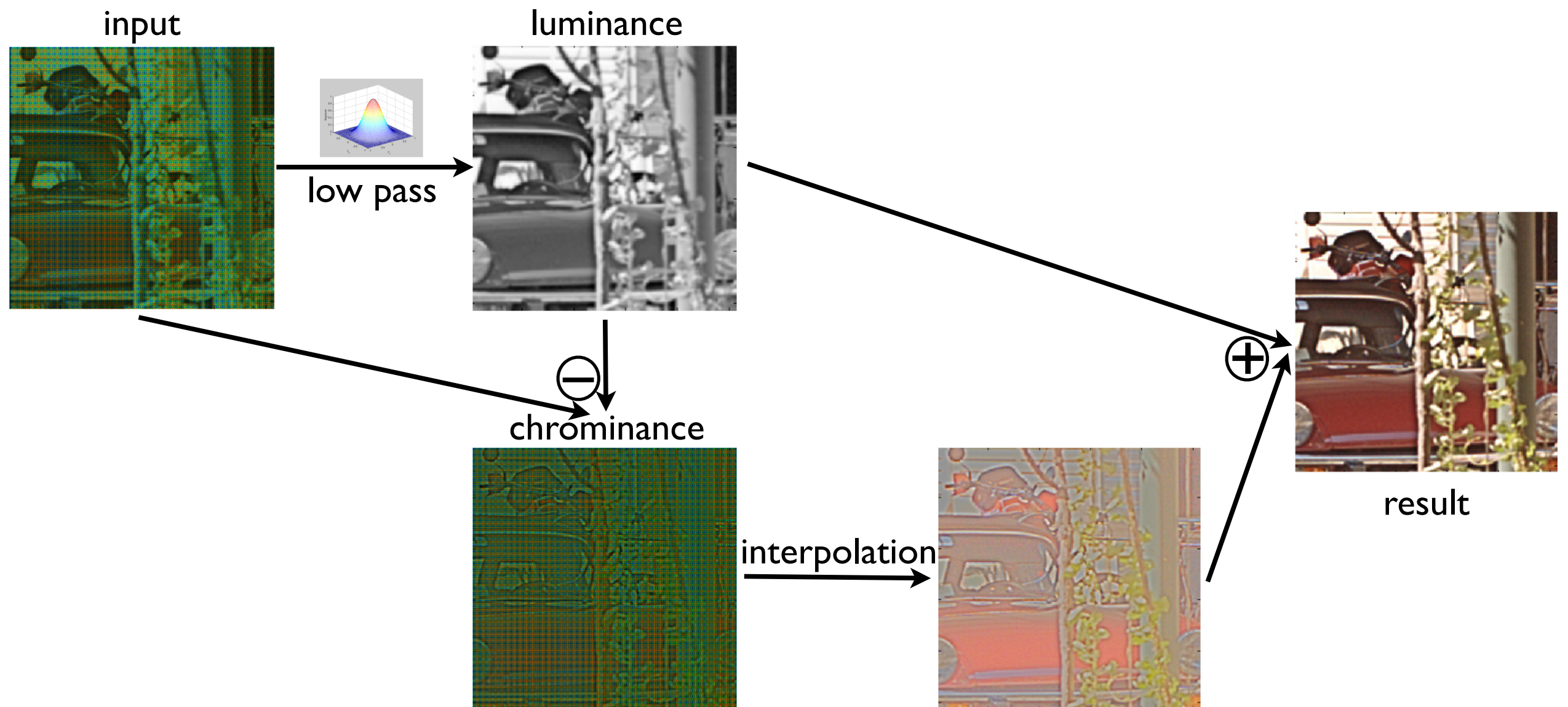
Bayer
Pattern

Mosaiced
Image



Demosaiced
Image

Demosaicing



Tone Mapping



linear



gamma



B/W corrected gamma

Tone mapping

