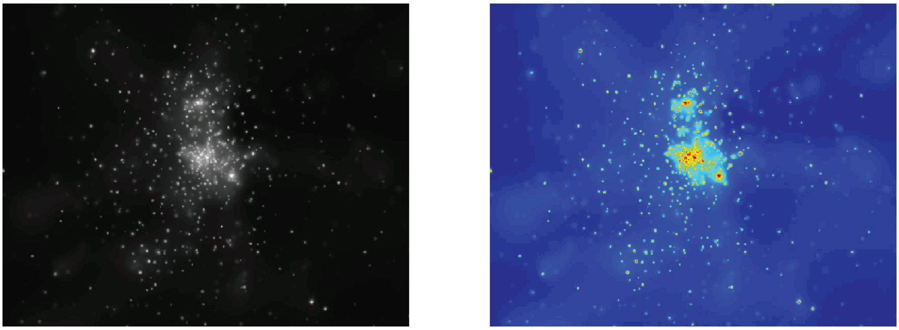

Figure 1.2 Example of grayscale (left) and false colour (right) image display

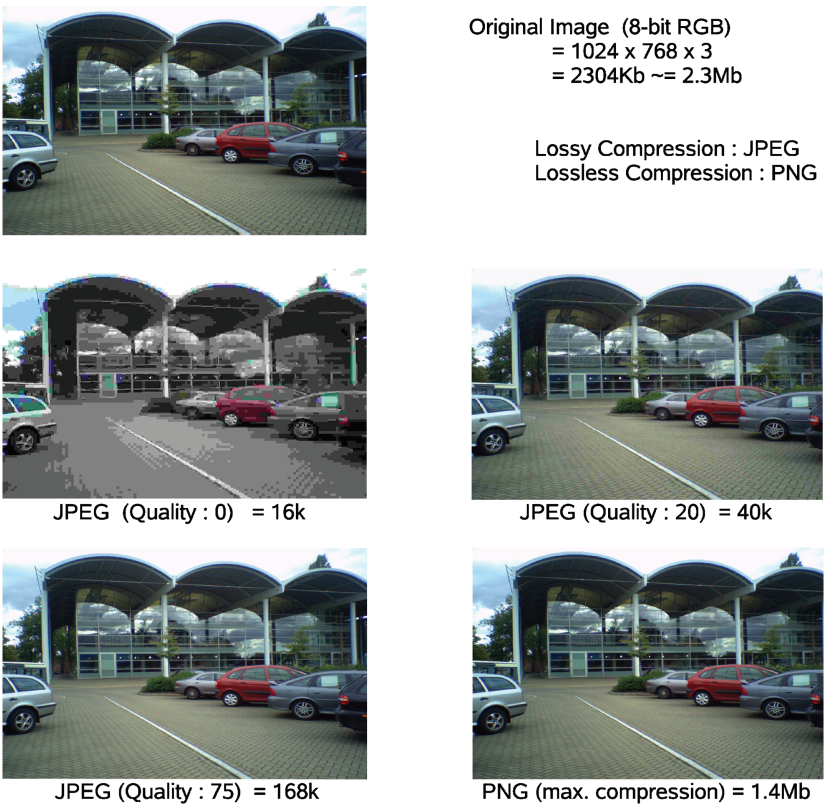

Figure 1.5 Example image compressed using lossless and varying levels of lossy compression

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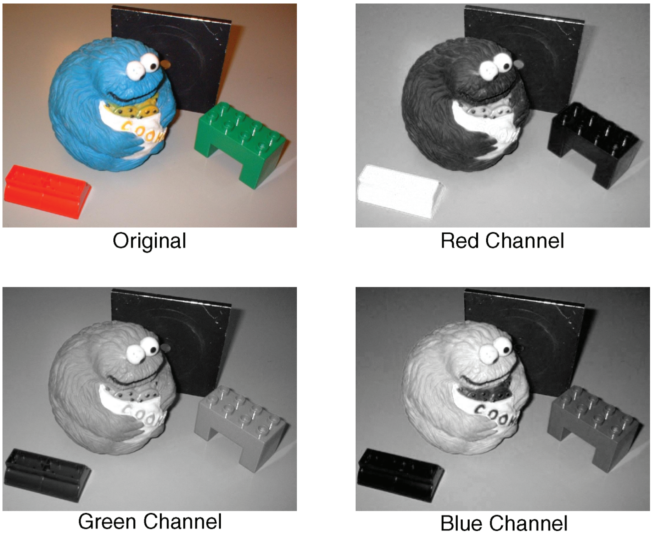

Figure 1.6 Colour RGB image separated into its red (R), green (G) and blue (B) colour channels

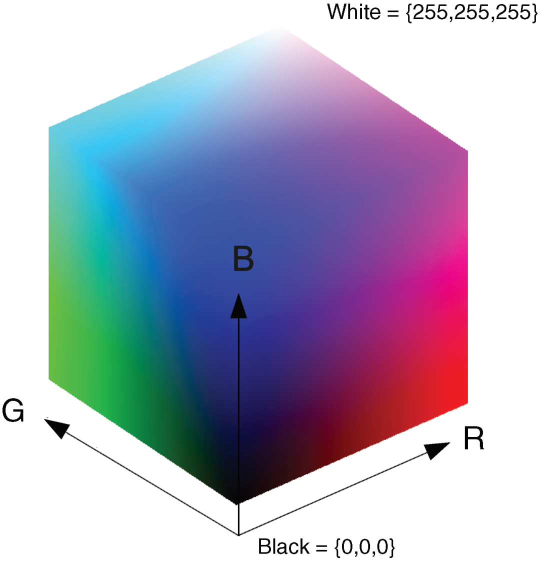

Figure 1.7 An illustration of RGB colour space as a 3-D cube

Figure 1.8 An example of RGB colour image (left) to grey-scale image (right) conversion

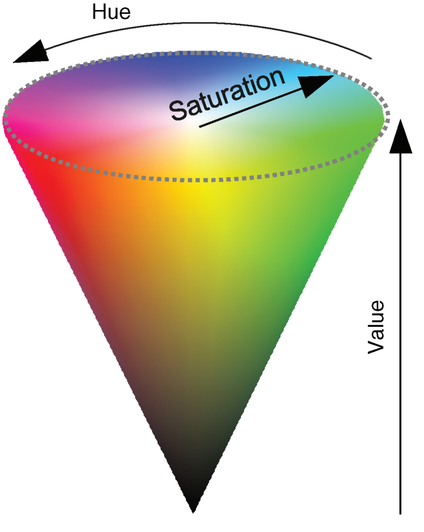

Figure 1.9 HSV colour space as a 3-D cone

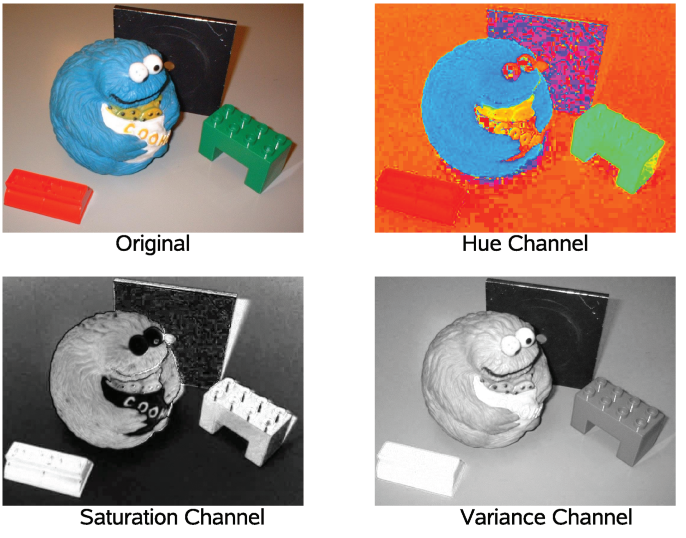

Figure 1.10 Image transformed and displayed in HSV colour space

Figure 3.21 Adaptive histogram equalization applied to a sample colour image

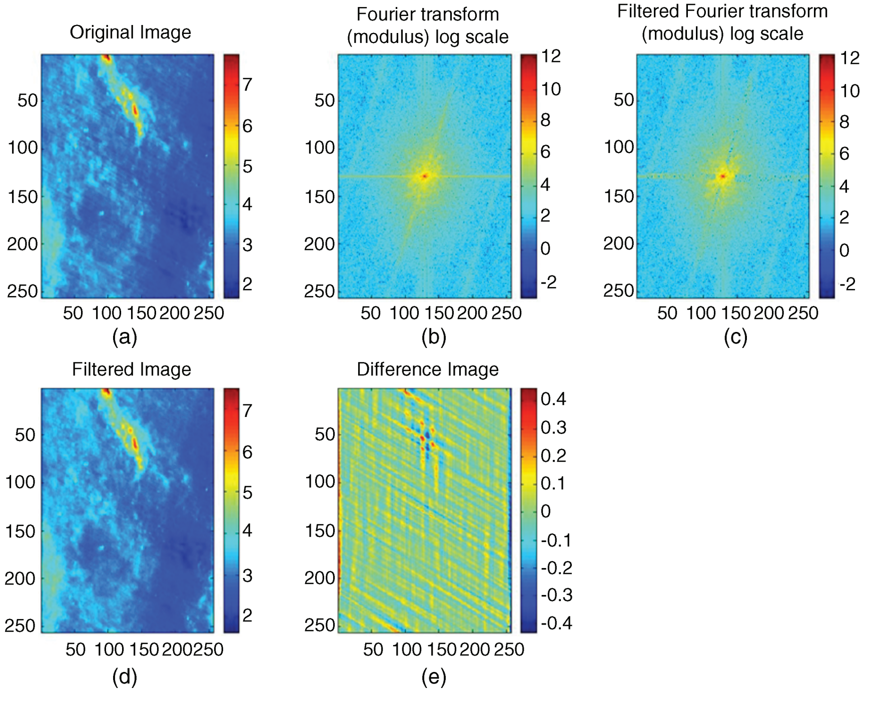

Figure 5.8 An application of frequency-domain filtering. Proceeding from left to right and top to bottom, we have: (a) the original image with striping effect apparent; (b) the Fourier modulus of the image (displayed on log scale); (c) the Fourier modulus of the image after filtering (displayed on log scale); (d) the filtered image resulting from recombination with the original phase; (e) the difference between the original and filtered images

Figure 8.18 Application of the hit-or-miss transformation to detect a target shape in a string of text. Note that the target includes the background and hit-or-miss is strictly sensitive to both the scale and the orientation of the target shape

Figure 9.1 Anatomical landmarks (indicated in red) are located at points which can be easily identified visually. Mathematical landmarks (black crosses) are identified at points of zero gradient and maximum corner content. The pseudo-landmarks are indicated by green circles

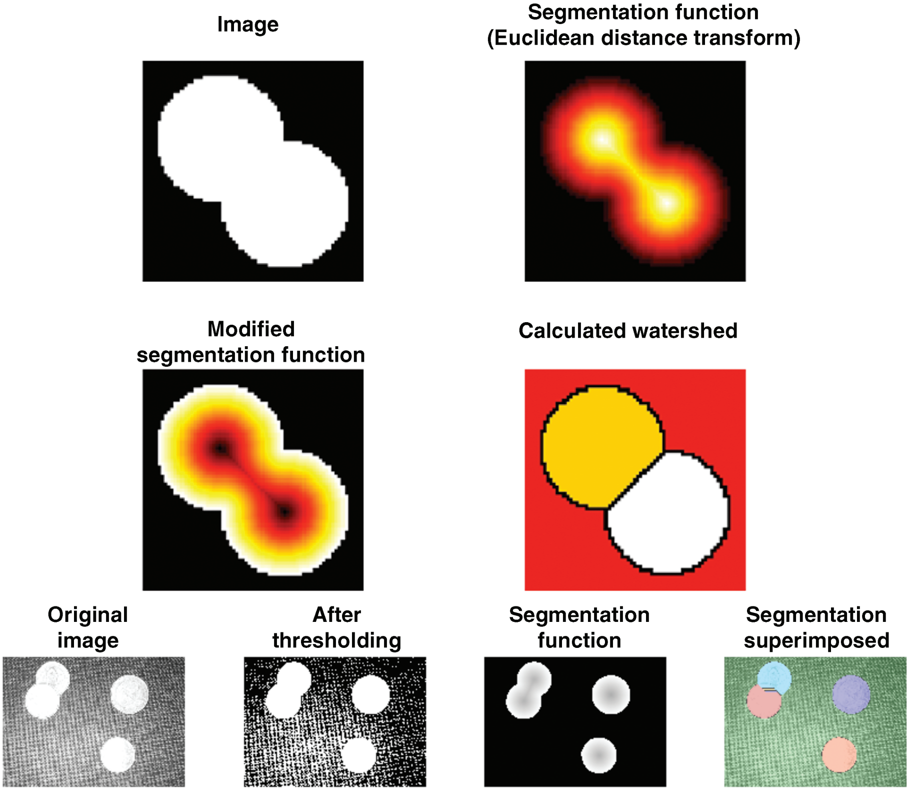

Figure 10.9 In the first, idealized example, the watershed yields a perfect segmentation. In the second image of overlapping coins, morphological opening is required first on the thresholded image prior to calculation of the watershed

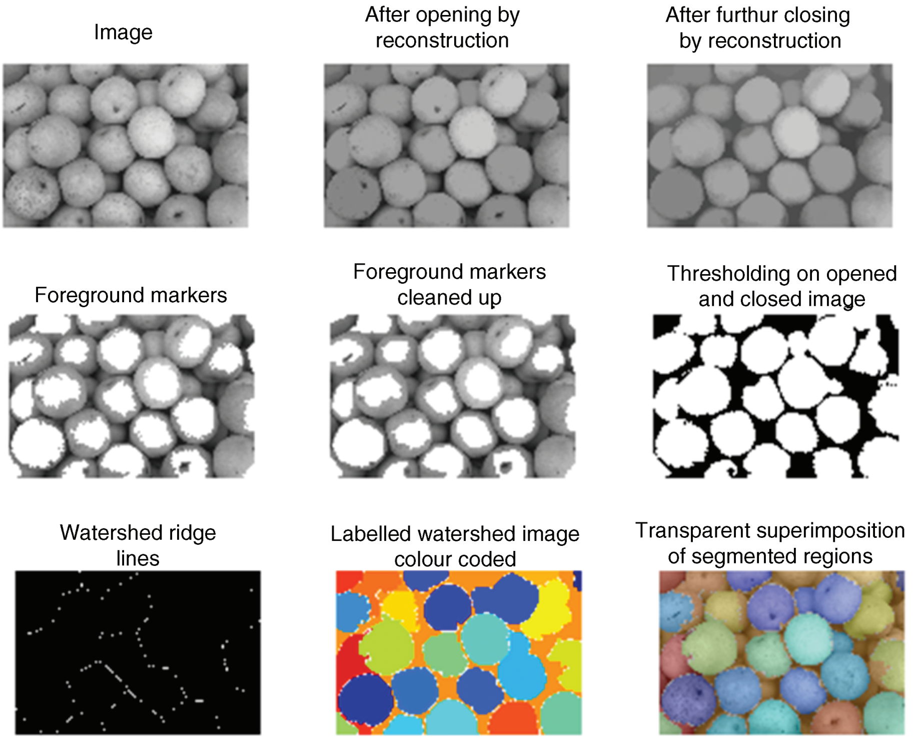

Figure 10.11 Marker-controlled watershed segmentation

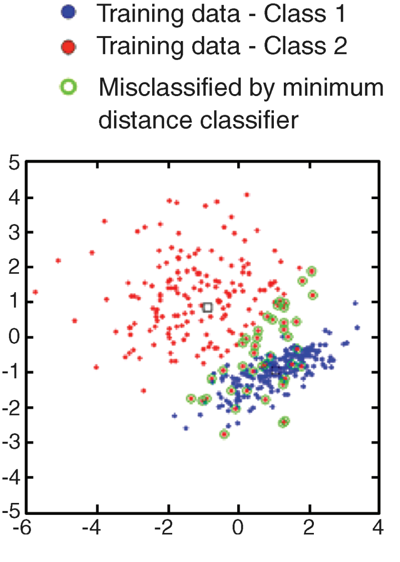

Figure 11.7 Feature vectors which are statistically more likely to have originated from one class may lie closer to the prototype of another class. This is a major weakness of a simple Euclidean minimum distance classifier

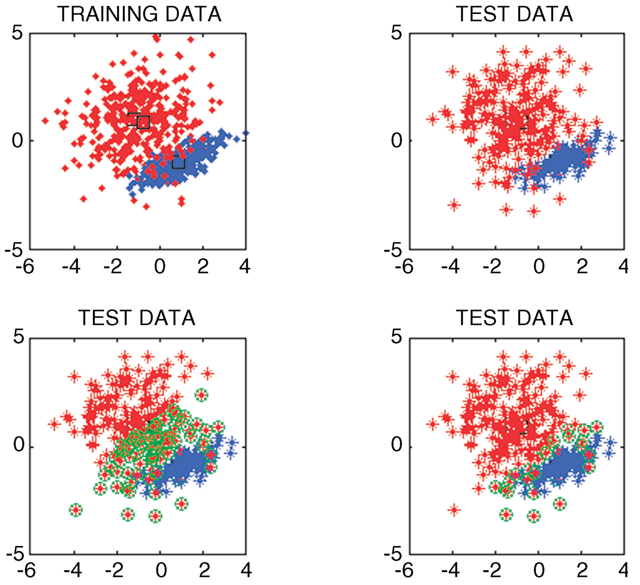

Figure 11.8 A comparison of Bayesian classifiers under different assumptions about the covariance matrix and prior distributions. The class-conditional densities of the training data are both normal. (a) Training data: 200 samples from each class (class 1: blue; class 2: red). (b) Test data: 50 originate from class 1, 100 originate from class 2 (indicated in red). (c) Classification using a Bayesian classifier with a diagonal estimate of the covariance and an erroneous prior distribution of $p(\omega_1) = 0.9$ and $p(\omega_2) = 0.1$. Misclassified test points are circled in green. (d) Classification using a Bayesian classifier with a diagonal estimate of the covariance and correct prior distribution of $p(\omega_1) = 1/3$ and $p(\omega_2) = 2/3$. Misclassified test points are circled in green