

CONCLUSIONS AND FURTHER TECHNIQUES

As a final chapter, we will highlight several features that are considered to be unique in this book and conclude with a number of interesting techniques for which we are unable to cover in this book. The most unique feature is a wide coverage of statistical signal processing techniques that are applied to subpixel detection and mixed pixel classification with various functional taxonomies. On one end, the techniques are categorized according to the level of target knowledge-supervised, unsupervised and automatic. On another end, the techniques are classified according to constraints imposed on targets of interest-target abundance constraint and target signature constraint. A second unique feature is inclusion of sufficient details of mathematical derivations of all the presented techniques that make this book self-contained. In addition, all the relevant references are also included where they are necessary. A third feature is extensive experiments accompanied with comparative study and quantitative analysis to illustrate each described technique. A fourth unique feature is an introduction of a 3-D ROC analysis that can be used to evaluate detection and classification performance. A fifth unique feature is study on issues of sensitivity to level of target knowledge and noise, which play a significant role in design of techniques. Finally, another unique feature is demonstration of ability of the presented techniques in real-time processing through experiments.