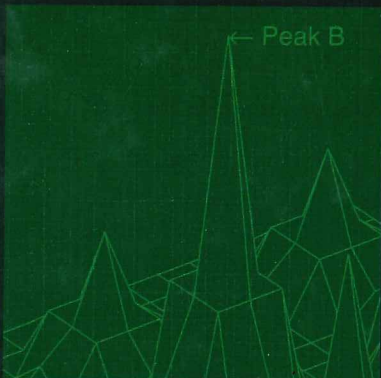


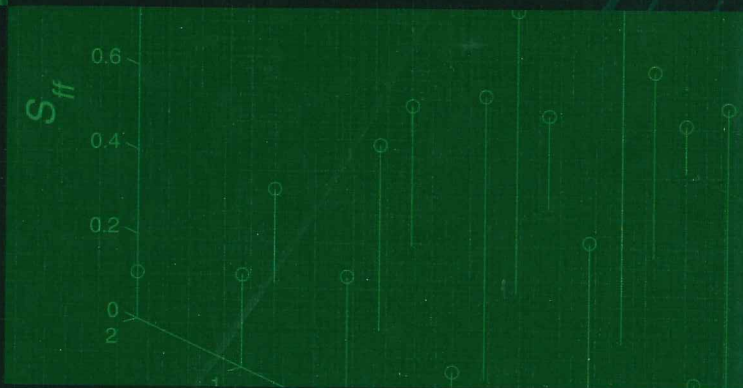


Advances in **P**attern **R**ecognition



# Computer Vision Beyond the Visible Spectrum

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 Springer



## Advances in Pattern Recognition

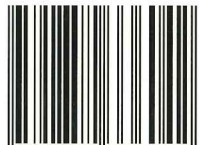
Traditionally the majority of computer vision research has used algorithms based on sensors that operate in the visible band of the electromagnetic spectrum. Recently, though, there has been a dramatic increase in the use of sensors in the non-visible bands (such as the infrared band). As a result, image sensing devices, which were once only suitable for military and remote sensing applications, are now finding their way into other areas such as security vision-based systems. Concomitantly, the field of medical imaging has experienced explosive growth with computer vision algorithms automating well-known modalities (i.e., MRI and ultrasound) while new modalities (i.e., terahertz imaging) are making an impressive appearance. This has led to a need for existing computer vision methods and algorithms to be adapted for use with non-visible sensors, or for the development of completely new methods and systems.

*Computer Vision Beyond the Visible Spectrum* is the first book to bring together state-of-the-art work in this area. It presents new and pioneering research that is currently taking place across the electromagnetic spectrum in the military, commercial, and medical domains. By providing a detailed examination of each of these areas, it focuses on the development of state-of-the-art algorithms and looks at how they can be used to solve existing and new challenges within computer vision.

Essential reading for academics and industrial researchers working in the area of computer vision, image processing, and medical imaging, it will also be useful background reading for advanced undergraduate and postgraduate students studying in the same areas.

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