Template Matching Techniques in Computer Vision. Theory and Practice

Description: The detection and recognition of objects in images is a key research topic in the computer vision community. Within this area, face recognition and interpretation has attracted increasing attention owing to the possibility of unveiling human perception mechanisms, and for the development of practical biometric systems. This book and the accompanying website, focus on template matching, a subset of object recognition techniques of wide applicability, which has proved to be particularly effective for face recognition applications. Using examples from face processing tasks throughout the book to illustrate more general object recognition approaches, Roberto Brunelli:
- examines the basics of digital image formation, highlighting points critical to the task of template matching;
- presents basic and advanced template matching techniques, targeting grey-level images, shapes and point sets;
- discusses recent pattern classification paradigms from a template matching perspective;
- illustrates the development of a real face recognition system;
- explores the use of advanced computer graphics techniques in the development of computer vision algorithms.

Template Matching Techniques in Computer Vision is primarily aimed at practitioners working on the development of systems for effective object recognition such as biometrics, robot navigation, multimedia retrieval and landmark detection. It is also of interest to graduate students undertaking studies in these areas.

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