Ratha / Chellappa / Patel

Deep Learning-Based Face Analytics

This book provides an overview of different deep learning-based methods for face recognition and related problems. Specifically, the authors present methods based on autoencoders, restricted Boltzmann machines, and deep convolutional neural networks for face detection, localization, tracking, recognition, etc. The authors also discuss merits and drawbacks of available approaches and identifies promising avenues of research in this rapidly evolving field. Even though there have been a number of different approaches proposed in the literature for face recognition based on deep learning methods, there is not a single book available in the literature that gives a complete overview of these methods. The proposed book captures the state of the art in face recognition using various deep learning methods, and it covers a variety of different topics related to face recognition. This book is aimed at graduate students studying electrical engineering and/or computer science. Biometrics is a course that is widely offered at both undergraduate and graduate levels at many institutions around the world: This book can be used as a textbook for teaching topics related to face recognition. In addition, the work is beneficial to practitioners in industry who are working on biometrics-related problems. The prerequisites for optimal use are the basic knowledge of pattern recognition, machine learning, probability theory, and linear algebra.

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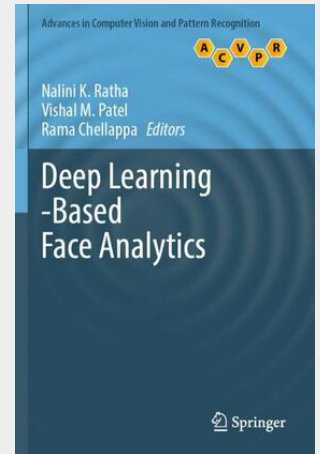
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