DESCRIPTION

*3D Face Modeling, Analysis and Recognition* presents methodologies for analyzing shapes of facial surfaces, develops computational tools for analyzing 3D face data, and illustrates them using state-of-the-art applications. The methodologies chosen are based on efficient representations, metrics, comparisons, and classifications of features that are especially relevant in the context of 3D measurements of human faces. These frameworks have a long-term utility in face analysis, taking into account the anticipated improvements in data collection, data storage, processing speeds, and application scenarios expected as the discipline develops further.

The book covers face acquisition through 3D scanners and 3D face pre-processing, before examining the three main approaches for 3D facial surface analysis and recognition: facial curves; facial surface features; and 3D morphable models. Whilst the focus of these chapters is fundamentals and methodologies, the algorithms provided are tested on facial biometric data, thereby continually showing how the methods can be applied.

Key features:

- Explores the underlying mathematics and will apply these mathematical techniques to 3D face analysis and recognition
- Provides coverage of a wide range of applications including biometrics, forensic applications, facial expression analysis, and model fitting to 2D images
Contains numerous exercises and algorithms throughout the book

ABOUT THE AUTHOR

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