Contents

Information Geometry and Its Applications: An Overview .......... 1
Frank Critchley and Paul Marriott

Towards the Geometry of Model Sensitivity: An Illustration ........ 33
Karim Anaya-Izquierdo, Frank Critchley, Paul Marriott and Paul Vos

On the Geometric Interplay Between Goodness-of-Fit and Estimation: Illustrative Examples ................ 63
Karim Anaya-Izquierdo, Frank Critchley, Paul Marriott and Paul Vos

Spontaneous Learning for Data Distributions via Minimum Divergence .................................................. 79
Shinto Eguchi, Akifumi Notsu and Osamu Komori

Extrinsic Projection of Itô SDEs on Submanifolds with Applications to Non-linear Filtering ....................... 101
John Armstrong and Damiano Brigo

Fast (1 + ε)-Approximation of the Löwner Extremal Matrices of High-Dimensional Symmetric Matrices .............. 121
Frank Nielsen and Richard Nock

Dimensionality Reduction for Information Geometric Characterization of Surface Topographies ...................... 133
C.T.J. Dodson, M. Mettänen and W.W. Sampson

On Clustering Financial Time Series: A Need for Distances Between Dependent Random Variables ..................... 149
Gautier Marti, Frank Nielsen, Philippe Donnat and Sébastien Andler

The Geometry of Orthogonal-Series, Square-Root Density Estimators: Applications in Computer Vision and Model Selection ................. 175
Adrian M. Peter, Anand Rangarajan and Mark Moyou
Dimensionality Reduction for Measure Valued Evolution
Equations in Statistical Manifolds ............................. 217
Damiano Brigo and Giovanni Pistone

Batch and Online Mixture Learning: A Review with Extensions ...... 267
Christophe Saint-Jean and Frank Nielsen

Erratum to: Computational Information Geometry .................. E1
Frank Nielsen, Frank Critchley and Christopher T.J. Dodson
Computational Information Geometry
For Image and Signal Processing
Nielsen, F.; Critchley, F.; Dodson, C.T.J. (Eds.)
2017, XIV, 299 p. 79 illus., Hardcover
ISBN: 978-3-319-47056-6