

# Contents

**Foreword — VII**

**Preface — IX**

## **Part I: Biometrics**

Luiz Moutinho, Moran Cerf

### **Chapter 1**

**Introduction — 3**

Moran Cerf

### **Chapter 2**

**Using Neuroscience and Biometrics in Individuals and Organizations — 13**

Moran Cerf, Miguel Brendl

### **Chapter 3**

**Using Sensory Substitutions to Make Better Business Decisions (or How Sensory Devices Connected to Our Body Can Help Us Outperform AI and Common Data Analytics) — 37**

Omer Granoviter, Moran Cerf, Yael Hanein

### **Chapter 4**

**Leaked Expressions Captured with Wearable High-Resolution Facial Electromyography — 83**

Clarice O' Brien, Styliani Vlachou

### **Chapter 5**

**Facial Expressions and Recognition for the Communication of Thoughts and Emotions in Business and Marketing — 99**

Luiz Moutinho, Andre Zeferino, Karla Menezes

### **Chapter 6**

**Human Feedback: A Review of Advanced Studies in Facial Expressions and Their Applications in Business — 117**

Mariano Alcañiz, Elena Parra, Irene Alice Chicchi Giglioli, Aitana García

**Chapter 7**

**Using Virtual Reality for Leadership Assessment and Training Through Behavioral Biomarkers — 141**

David A. Schweidel

**Chapter 8**

**Biometrics, Privacy, and Authentication — 171**

Moran Cerf

**Chapter 9**

**The Human Affair with Data, the Challenges It Creates, Ways to Solve These Challenges, and Future Outlook — 185**

Moran Cerf and Uriel Appel

**Chapter 10**

**Using Biometrics in Healthcare Management and Diagnostics — 195**

**Part II: Neuroscience**

Jyrki Suomala, Pekka Berg

**Chapter 11**

**Brain's Valuation Networks and Consumer Neuroscience Methods in the Fuzzy Front-End of the Innovation Process — 207**

Lucilia Cardoso, Arthur Araujo, Francisco Dias, Luiz Moutinho

**Chapter 12**

**The Dynamics of Neuromarketing: Publication, Collaboration, and Topic Prominence — 223**

Luiz Moutinho, Karla Menezes, Silvio Menezes

**Chapter 13**

**Using Neuroscience to Understand Consumers — 245**

Hasrini Sari, Tota Simatupang

**Chapter 14**

**Uncovering Consumers' Subconscious Responses to Marketing Stimuli — 279**

Enrique Bigne

**Chapter 15**

**Combined Use of Neuroscience and Virtual Reality for Business Applications — 295**

Moran Cerf

**Chapter 16**

**On the Ways by Which AI Can Revolutionize the Usage of Biometrics in Business — 317**

Luiz Moutinho, Moran Cerf

**Chapter 17**

**The Future of Neuroscience and Biometrics in Business — 333**

**List of Figures — 341**

**List of Tables — 343**

**About the Editors — 345**

**Index — 347**