Table of Contents

Foreword ......................................................................................................................... xiv

Preface ............................................................................................................................ xv

Chapter 1
Analysis of Mobile Phone Call Data of Istanbul Residents............................... 1
  F. Sibel Salman, Koç University, Turkey
  Erbil Sivaslioğlu, Koç University, Turkey
  Burak Memiş, Koç University, Turkey

Chapter 2
Campaign Optimization through Mobility Network Analysis.......................... 33
  Yaniv Altshuler, Endor, Israel
  Erez Shmueli, Tel-Aviv University, Israel
  Guy Zyskind, Massachusetts Institute of Technology, USA
  Oren Lederman, Massachusetts Institute of Technology, USA
  Nuria Oliver, Telefonica Research, Spain
  Alex “Sandy” Pentland, Massachusetts Institute of Technology, USA

Chapter 3
Assessing Financial Well-Being of Merchants by Analyzing Behavioral
Patterns in Historical Transactions ................................................................. 76
  Kumar Abhinav Srivastava, Massachusetts Institute of Technology, USA
  Vivek Kumar Singh, Massachusetts Institute of Technology, USA
  Burcin Bozkaya, Sabanci University, Turkey
  Alex “Sandy” Pentland, Massachusetts Institute of Technology, USA
Chapter 4
The Role of Geo-Demographic Big Data for Assessing the Effectiveness of Crowd-Funded Software Projects: A Case Example of “QPress” .......... 94
Jonathan Bishop, Centre for Research into Online Communities and E-Learning Systems, UK

Chapter 5
An Interactive Tool for Visualizing and Analyzing Spatio-Temporal Data ...... 121
Alican Turk, Sabanci University, Turkey
Selim Balcisoy, Sabanci University, Turkey
Burcin Bozkaya, Sabanci University, Turkey

Chapter 6
Building a Visual Analytics Tool for Location-Based Services .................. 150
Erdem Kaya, Sabanci University, Turkey
Mustafa Tolga Eren, Sabanci University, Turkey
Candemir Doger, Sabanci University, Turkey
Selim Balcisoy, Sabanci University, Turkey

Chapter 7
Data Visualization Using Weighted Voronoi Diagrams .......................... 181
Raghveer Devulapalli, University of Minnesota, USA
Neil Peterson, University of Minnesota, USA
John Gunnar Carlsson, University of Southern California, USA

Chapter 8
Developing a Method for Visualizing Population Movements .................. 205
Matthew Kwan, RMIT University, Australia
Colin Arrowsmith, RMIT University, Australia
William Cartwright, RMIT University, Australia

Chapter 9
Care to Share? Using GPS Fleet Data to Assess Taxi Sharing .................. 222
Paolo Santi, Massachusetts Institute of Technology, USA & Istituto di Informatica e Telematica del CNR, Italy
Carlo Ratti, Massachusetts Institute of Technology, USA

Chapter 10
SPAM: An Effective and Efficient Spatial Algorithm for Mining Grid Data .... 245
Ritu Chauhan, Amity University, India
Harleen Kaur, Hamdard University, India
Chapter 11
Demystifying Big Data in the Cloud: Enhancing Privacy and Security Using Data Mining Techniques .......................................................... 264

Gebeyehu Belay Gebremeskel, Chongqing University, China
Yi Chai, Chongqing University, China
Zhongshi He, Chongqing University, China

Compilation of References ........................................................................................................... 305

About the Contributors .................................................................................................................... 336

Index.............................................................................................................................................. 346