

Springer Series in Fashion Business

Sébastien Thomassey · Xianyi Zeng  
*Editors*

# Artificial Intelligence for Fashion Industry in the Big Data Era

 Springer

# **Springer Series in Fashion Business**

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*Editors*  
Sébastien Thomassey  
ENSAIT-GEMTEX  
Roubaix  
France

Xianyi Zeng  
ENSAIT-GEMTEX  
Roubaix  
France

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# Preface

In today's world, data have become one of the most valuable elements for society progress and industrial innovations. Supported by applications of the Internet, the big data environment has drastically changed our daily life and also the economic and business world.

The garment manufacturing, becoming fashion industry, is one of the oldest human activities and has come down through the centuries with continuously adapting to the technology and society advances. For the fashion industry, the big data era is very challenging but offers a huge scope of opportunities. This book deals with “fashion big data” which includes many types of data: point-of-sales (POS) data, geographic information systems (GIS) data, social media data, virtual 3D data, sensory data, textile physical data.

To manage and make a profitable use of these data, advanced techniques are required. Artificial Intelligence (AI) includes a set of techniques which are particularly suitable in such situation. Indeed, AI is able to deal with the “3V” of big data, namely Velocity, Variety, Volume with uncertainties, volatility, complexity in the fashion industry and related market. However, the implementation of these techniques is sometimes difficult and can scare some fashion companies.

Therefore, faced to the variety of methods and models, applications as well as data types, we propose this book, aiming to give an overview to practitioners and academics of the potential of AI methods in all the sectors of the fashion industry.

*Artificial Intelligence for Fashion Industry in the Big Data Era* offers through three parts: Part I—AI for Fashion Sales Forecasting, Part II—AI for Textile Apparel Manufacturing and Supply Chain, and Part III—AI for Garment Design and Comfort, 14 chapters written by 24 co-authors.

To be very specific, the topics covered in this volume are as follows:

- Introduction: Artificial Intelligence for Fashion Industry in the Big Data Era
- AI-Based Fashion Sales Forecasting Methods in Big Data Era
- Enhanced Predictive Models for Purchasing in the Fashion Field by Applying Regression Trees Equipped with Ordinal Logistic Regression
- A Data Mining-Based Framework for Multi-Item Markdown Optimization

- Social Media Analytics for Decision Support in Fashion Buying Processes
- Review of Artificial Intelligence Applications in Garment Manufacturing
- AI for Apparel Manufacturing in Big Data Era: A Focus on Cutting and Sewing
- A Discrete Event Simulation Model with Genetic Algorithm Optimisation for Customised Textile Production Scheduling
- An Intelligent Fashion Replenishment System Based on Data Analytics and Expert Judgment
- Blockchain-Based Secured Traceability System for Textile and Clothing Supply Chain
- Artificial Intelligence Applied to Multisensory Studies of Textile Products
- Evaluation of Fashion Design Using Artificial Intelligence Tools
- Garment Wearing Comfort Analysis Using Data Mining Technology
- Garment Fit Evaluation Using Machine Learning Technology

We hope that this book will provide valuable insights and will be greatly beneficial to the fashion business.

We gratefully acknowledge all the authors who have contributed to this book and all the anonymous reviewers for their essential works.

Finally, we would like to thank the Springer team for their kind support and patience during the building of this book project.

Roubaix, France  
February 2018

Sébastien Thomassey  
Xianyi Zeng

*The original version of the book was revised:  
Incorrect co-author affiliation has been  
corrected. The erratum to this book is  
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