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Marco de Gemmis · Ante Odić
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Editors

Emotions and Personality in Personalized Services

Models, Evaluation and Applications

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*To our families, for their patience and
support. To our colleagues, for their critical
and constructive comments*

Marko Tkalčič
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Preface

Personalized systems aim at adapting the content, the interface or the services in general to each user. As an integral part of our daily interactions on the web in various forms, from search engines to online shopping websites, they help us find contents more efficiently. The technologies that drive the adaptation to end users are based on the inference of user's preferences and characteristics from the traces that the user leaves while interacting with the applications. Traditionally, explicit and implicit user feedback has been used to model the users.

Personalized services can now take advantage of more detailed user profiles that include highly descriptive features, such as emotions and personality. This has become possible with the advent of robust methods for an unobtrusive detection of personality, emotions and sentiments from different modalities, such as social media traces, mobile devices and sensors.

This book brings in a single volume the basic bricks needed to understand and build personalized systems based on emotions and personality along with more advanced topics. It bridges personalization algorithms, such as recommender systems, with psychologically motivated user-centric concepts, such as emotions and personality. It translates psychological theories of emotions and personality into computational models for use in personalization algorithms. It surveys techniques for the implicit and explicit acquisition of personality, emotions, sentiments and social signals from sensors, mobile devices and social media. It provides design hints to develop emotion- and personality-aware systems as well as examples of personalized applications that make good use of personality. This book will help researchers and practitioners develop and evaluate user-centric personalization systems that take into account the factors that have a tremendous impact on our decision-making emotions and personality.

In the first part of the book, the theoretical background for the psychological constructs of emotions and personality is given. The second part covers the state-of-the-art methods for the unobtrusive acquisitions of emotions, personality, social signals and sentiments. The third part describes the concrete applications of personalized systems working in a wide range of domains (from music

recommendation to e-learning) with different aims, such as improving algorithms for context-aware recommendation or diversification of suggested items. Ethical issues are discussed as well.

We would like to thank all of the authors for their contributions to this book. Also, special thanks go to the reviewers that assured the high quality of the chapters. We are grateful to the Springer staff, especially Beverley Ford and James Robinson for their support throughout the production of this book. Last but not least, we are thankful to many of our colleagues that supported this effort through critical and constructive discussions.

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April 2016

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