

Preface

As research on emotion modeling is becoming more mature, the amount of computational models of affective processes is rapidly increasing. Nevertheless, it is important to cut down the complexity of these models, for multiple reasons.

First, cutting down complexity facilitates reuse of models. Many computational models of affective processes are developed primarily for a practical purpose and are therefore embedded in something else (e.g., an adaptive agent, intelligent virtual character, or robot). These models are often developed (a) in an ad hoc way, building on the best practices from earlier research, (b) based on emotional theories that lack necessary computational details, (c) from scratch, using publications of others instead of using components from existing models or (d) using assumptions from others, and finally (e) without a solid validation scheme. This is understandable given the applied nature of many of these models. However, this approach results in computational models of affective processes that are complex, and difficult to understand and validate. A pragmatic approach is easier to understand, build upon, and implement.

Second, limiting complexity facilitates contributions to psychological research. Computational models of emotion are tools for experimental psychologists that can be used to gain insight into emotion. Many of the computational mechanisms needed for developing these models are not available in emotion psychology. Hence, instead of asking for these mechanisms from psychologists, the models should bring insight, and generate testable hypotheses. For this to be possible the model must be fully specified in a form that is understandable for psychologists, and have clear psychological grounding. Simpler models are easier to understand and ground than complex ones.

The goal of this volume is to gain more insight into the knowledge that is used to develop computational models of affective processes. To this end, the book starts with an introduction to the field, written by Eva Hudlicka. After that, it contains extended versions of eight papers that were presented at the workshop on Standards for Emotion Modeling (held in Leiden, the Netherlands, in 2011) and the workshop on Emotional and Empathic Agents (held in Valencia, Spain, in 2012). To assure a high quality, each chapter was reviewed by at least three anonymous referees. The chapters are distributed over two parts: one part on “Generic Models and Frameworks,” and the other one on “Evaluations of Specific Models.” Nevertheless, the material of each chapter is self-contained, so that readers can select any individual chapter based on their research interests without the need of reading other chapters.

To conclude, we would like to thank all the authors for their interesting contributions, and in particular Eva Hudlicka for writing an excellent introduction chapter. Also, we express our gratitude to the reviewers for their hard work in assuring the high quality of this survey, and to Alfred Hofmann and Anna Kramer at Springer Verlag for providing us the opportunity to publish this volume.

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