
Preface

The main goal in writing this book was to help organisations improve their effort estimates and their effort estimation processes by providing a step-by-step methodology that takes them through the building and validation of models that are based on their own knowledge and experience. Such models, once validated, can be used to obtain predictions, carry out risk analyses, help organisations with their decision-making when estimating effort for new projects and set a pathway to making those organisations into learning organisations.

This methodology, called expert-based knowledge engineering of Bayesian networks (EKEBNs), has been adapted by the author as a result of several collaborations with six different companies in New Zealand and Brazil. Domain experts from each company participated in the elicitation of bespoke models for effort estimation. The building of such models led those companies to change their estimation processes and to also improve their estimates. Their stories are detailed in Chaps. 7–12. Note that the methodology detailed in this book can also be employed to build models aiming at different goals other than effort estimation (e.g., quality prediction, risk management, resource management and prediction).

All models were built using a single tool, called Netica. This tool was chosen since it provided simplicity and the functionality that was needed to carry out the work. The example model that is used in some parts of this book was also created using this same tool. This model is available for download, and the tool is also free to use with models that do not contain more than 15 factors. We hope that making the example model available will encourage companies to run the model and see the value in using such models for decision-making.

Writing this book was made possible due to the participation of several companies in New Zealand and Brazil with which I had the privilege to collaborate and research funding from the Royal Society of New Zealand and from the Brazilian Government (CAPES/PVE).

Karlskrona, Sweden
October 2013

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<http://www.springer.com/978-3-642-54156-8>

Practitioner's Knowledge Representation
A Pathway to Improve Software Effort Estimation

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2014, XI, 211 p. 84 illus., Hardcover

ISBN: 978-3-642-54156-8