

Over the 35-year gestation of this book, I have benefited greatly from the suggestions, comments and criticisms of many colleagues and anonymous referees. The list includes Mike Georgeff, Peter Cheeseman, Ray Solomonoff, Phil Dawid, David Hand, Paul Vitanyi, Alex Gammerman, Ross Quinlan, Peter Tischer, Lloyd Allison, Trevor Dix, Kevin Korb, Murray Jorgenson, Mike Dale, Charles Twardy, Jon Oliver, Rohan Baxter and especially David Dowe, who has contributed significantly both to the range of applications of MML and to the development of new approximations for message lengths and MML estimators.

I must also thank Julie Austin, who typed and proofread the early chapters, and Steve Gardner and Torsten Seeman, who helped convert the original draft into LaTeX.

Finally, without the constant support of my wife Judith, I would never have managed to complete the work.

Victoria, Australia, August 2004

C.S. Wallace

Disclaimer

The reader should be warned that I make no claim to be an authority on statistical inference, information theory, inductive reasoning or the philosophy of science. I have not read widely in any of these fields, so my discussions of others' work should be treated with some suspicion. The ideas in this book are those of a one-time physicist who drifted into computing via work on computer hardware and arithmetic. In this uncertain progress towards enlightenment, I encountered a succession of problems in analysing and understanding data for which I could find no very satisfactory solution in standard texts. Over the years, the MML approach was developed from rather ad hoc beginnings, but the development was driven mostly by the challenge of new problems and informal argument with colleagues, rather than by a proper study of existing work. This casual, indeed almost accidental, evolution partly excuses my paucity of citations.

Editorial Notes

This book is essentially the manuscript left behind by Christopher Wallace when he died on August 7, 2004.

We wanted to publish a book that was as close as possible to the original manuscript. We have therefore made only minimal changes to the manuscript. We have corrected typing and spelling errors. We have also attempted as best as we could to include all the references that the author intended to include. Where the author made it clear that he wanted to add citations, but did not indicate to what they referred, we have included our best guesses of what these references might be.

Colleagues in the School of Computer Science at Monash University are in the process of developing additional material and references on Minim to assist the readers of this book.

We acknowledge the contributions of Craig Callen, Glas Kutach and Huw Price for their helpful comments and assistance of Sarah George and Yuval Marom and that of Jeanette Niehus in preparing the index. All the people who helped produce this manuscript are, in particular, we thank the following people who assisted in the final version of this book: Lloyd Allison, David Dow Gardner, Les Goldschlager, Kevin Korb, Peter Tisch and Judy Wallace.

Victoria, Australia, February 2005

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