Credits and Acknowledgments

We should start off by explaining the order of authorship. Yoav conceived of the project and started it, in late 2001, working on it alone and with several colleagues (see below). Sometime in 2004 Yoav realized he needed help if the project were ever to come to conclusion, and he enlisted the help of Kevin. The result was a true partnership and a complete overhaul of the material. The current book is vastly different from the draft that existed when the partnership was formed—in depth, breadth, and form. Yoav and Kevin have made equal contributions to the book; the order of authorship reflects the history of the book, but nothing else.

In six years of book-writing we accumulated many debts. The following is our best effort to acknowledge those. If we omit any names, it is due solely to our poor memories and record keeping, and we apologize in advance.

When the book started out, Teg Grenager served as a prolific ghost writer. While little of the original writing remains (though some does, for example, in Section 8.3.1 on speech acts), the project would not have gotten off the ground without him.

Several past and present graduate students made substantial contributions. Chapter 12 (coalitional games) is based entirely on writing by Sam Ieong, who was also closely involved in the editing. Section 3.3.4 (the existence of Nash equilibria) and parts of Section 6.5 (compact game representations) are based entirely on writing by Albert Xin Jiang, who also worked extensively with us to refine the material. Albert also contributed to the proof of Theorem 3.4.4 (the minmax theorem). Some of the material in Chapter 4 on computing solution concepts is based on writing by Ryan Porter, who also contributed much of the material in Section 6.1.3 (bounded rationality). The material in Chapter 7 (multiagent learning) is based in part on joint work with Rob Powers, who also contributed text. Section 10.6.4 (mechanisms for matching) is based entirely on text by Baharak Rastegari, and David R. M. Thompson contributed material to Sections 10.6.3 (mechanisms for multicast routing) and 6.3.4 (ex post equilibria). Finally, all of the past and present students listed here offered invaluable comments on drafts. Other students also offered valuable comments. Samantha Leung deserves special mention; we also received useful feedback from Michael Cheung, Matthew Chudek, Farhad Ghassemi, Ryan Golbeck, James Wright, and Erik Zawadzki. We apologize in advance to any others whose names we have missed.

Several of our colleagues generously contributed material to the book, in addition to lending their insight. They include Geoff Gordon (Matlab code to generate Figure 3.13, showing the saddle point for zero-sum games), Carlos Guestrin (material on action selection in distributed MDPs in Section 2.2, and Figure 1.1,

showing a deployed sensor network), Michael Littman (Section 5.1.4 on computing all subgame-perfect equilibria), Amnon Meisels (much of the material on heuristic distributed constraint satisfaction in Chapter 1), Marc Pauly (material on coalition logic in Section 14.3), Christian Shelton (material on computing Nash equilibria for *n*-player games in Section 4.3), and Moshe Tennenholtz (material on restricted mechanism design in Section 10.7). We thank Éva Tardos and Tim Roughgarden for making available notes that we drew on for our proofs of Lemma 3.3.14 (Sperner's lemma) and Theorem 3.3.21 (Brouwer's fixed-point theorem for simplotopes), respectively.

Many colleagues around the world generously gave us comments on drafts, or provided counsel otherwise. Felix Brandt and Vince Conitzer deserve special mention for their particularly detailed and insightful comments. Other colleagues to whom we are indebted include Alon Altman, Krzysztof Apt, Navin A. R. Bhat, Ronen Brafman, Yiling Chen, Yossi Feinberg, Jeff Fletcher, Nando de Freitas, Raul Hakli, Joe Halpern, Jason Hartline, Jean-Jacques Herings, Ramesh Johari, Bobby Kleinberg, Daphne Koller, Fangzhen Lin, David Parkes, David Poole, Maurice Queyranne, Tim Roughgarden, Tuomas Sandholm, Peter Stone, Nikos Vlasis, Mike Wellman, Bob Wilson, Mike Wooldridge, and Dongmo Zhang.

Several people provided critical editorial and production assistance of various kinds. Most notably, David R. M. Thompson overhauled our figures, code formatting, bibliography, and index. Chris Manning was kind enough to let us use the LATEX macros from his own book, and Ben Galin added a few miracles of his own. Ben also composed several of the examples, found some bugs, drew many figures, and more generally for two years served as an intelligent jack-of-all-trades on this project. Erik Zawadzki helped with the bibliography and with some figures. Maia Shoham helped with some historical notes and bibliography entries, as well as with some copy-editing.

We thank all these friends and colleagues. Their input has contributed to a better book, but of course they are not to be held accountable for any remaining shortcomings. We claim sole credit for those.

We also thank Cambridge University Press for publishing the book, and for their enlightened online-publishing policy, which has enabled us to provide the broadest possible access to it. Specific thanks to Lauren Cowles, an editor of unusual intelligence, good judgment, and sense of humor.

Last, and certainly not the least, we thank our families, for supporting us through this time-consuming project. We dedicate this book to them, with love.