Chapter 1
About the Book

This book provides an introduction into the ethics of robots and artificial intelligence. The book was written with university students, policy makers, and professionals in mind but should be accessible for most adults. The book is meant to provide balanced and, at times, conflicting viewpoints as to the benefits and deficits of AI through the lens of ethics. As discussed in the chapters that follow, ethical questions are often not cut and dry. Nations, communities, and individuals may have unique and important perspectives on these topics that should be heard and considered. While the voices that compose this book are our own, we have attempted to represent the views of the broader AI, robotics, and ethics communities.

1.1 Authors

Christoph Bartneck is an associate professor and director of postgraduate studies at the HIT Lab NZ of the University of Canterbury. He has a background in Industrial Design and Human-Computer Interaction, and his projects and studies have been published in leading journals, newspapers, and conferences. His interests lie in the fields of Human-Computer Interaction, Science and Technology Studies, and Visual Design. More specifically, he focuses on the effect of anthropomorphism on human-robot interaction. As a secondary research interest he works on bibliometric analyses, agent based social simulations, and the critical review on scientific processes and policies. In the field of Design Christoph investigates the history of product design, tessellations and photography. The press regularly reports on his work, including the New Scientist, Scientific American, Popular Science, Wired, New York Times, The Times, BBC, Huffington Post, Washington Post, The Guardian, and The Economist.

Christoph Lütge   holds the Peter Löscher Chair of Business Ethics at Technical University of Munich (TUM). He has a background in business informatics and philosophy and has held visiting positions in Harvard in Taipei, Kyoto and Venice. He was awarded a Heisenberg Fellowship in 2007. In 2019, Lütge was appointed director of the new TUM Institute for Ethics in Artificial Intelligence. Among his major publications are: "The Ethics of Competition" (Elgar 2019), "Order Ethics or Moral Surplus: What Holds a Society Together?" (Lexington 2015), and the "Handbook of the Philosophical Foundations of Business Ethics" (Springer 2013). He has commented on political and economic affairs on Times Higher Education, Bloomberg, Financial Times, Frankfurter Allgemeine Zeitung, La Repubblica and numerous other media. Moreover, he has been a member of the Ethics Commission on Automated and Connected Driving of the German Federal Ministry of Transport and Digital Infrastructure, as well as of the European AI Ethics initiative AI4People. He has also done consulting work for the Singapore Economic Development Board and the Canadian Transport Commission.

Alan R. Wagner   is an assistant professor of aerospace engineering at the Pennsylvania State University and a research associate with the universities ethics institute. His research interest include the development of algorithms that allow a robot to create categories of models, or stereotypes, of its interactive partners, creating robots with the capacity to recognize situations that justify the use of deception and to act deceptively, and methods for representing and reasoning about trust. Application areas for these interests range from military to healthcare. His research has won several awards including being selected for by the Air Force Young Investigator Program. His research on deception has gained significant notoriety in the media resulting in articles in the Wall Street Journal, New Scientist Magazine, the journal of Science, and described as the 13th most important invention of 2010 by Time Magazine. His research has also won awards within the human-robot interaction community, such as the best paper award at RO-MAN 2007.

Sean Welsh   holds a PhD in philosophy from the University of Canterbury and is co-lead of the Law, Ethics and Society working group of the AI Forum of New Zealand. Prior to embarking on his doctoral research in AI and robot ethics he worked as a software engineer for various telecommunications firms. His articles have appeared in *The Conversation*, the *Sydney Morning Herald*, the *World Economic Forum*, *Euronews*, *Quillette* and *Jane's Intelligence Review*. He is the author of *Ethics and Security Automata*, a research monograph on machine ethics.

1.2   Structure of the Book

This book begins with introductions to both artificial intelligence (AI) and ethics. These sections are meant to provide the reader with the background knowledge necessary for understanding the ethical dilemmas that arise in AI. Opportunities for further reading are included for those interested in learning more about these top-

ics. The sections that follow focus on how businesses manage the risks, rewards, and ethical implications of AI technology and their own liability. Next, psychological factors that mediate how humans and AI technologies interact and the resulting impact on privacy are presented. The book concludes with a discussion of AI applications ranging from healthcare to warfare. These sections present the reader with real world situations and dilemmas that will impact stakeholders around the world. The chapter that follows introduces the reader to ethics and AI with an example that many people can try at home.