Contents

List of Figures                                            page ix
List of Contributors                                       xi
Acknowledgements                                           xix

Introduction
Silja Voeneky, Philipp Kellmeyer, Oliver Mueller, and Wolfram Burgard

PART I FOUNDATIONS OF RESPONSIBLE AI

1 Artificial Intelligence: Key Technologies and Opportunities
   Wolfram Burgard                                           11

2 Automating Supervision of AI Delegates
   Jaan Tallinn and Richard Ngo                            19

3 Artificial Moral Agents: Conceptual Issues and Ethical Controversy
   Catrin Misselhorn                                       31

4 Risk Imposition by Artificial Agents: The Moral Proxy Problem
   Johanna Thoma                                           50

5 Artificial Intelligence and Its Integration into the Human Lifeworld
   Christoph Durt                                         67

PART II CURRENT AND FUTURE APPROACHES TO AI GOVERNANCE

6 Artificial Intelligence and the Past, Present, and Future of Democracy
   Mathias Risse                                           85

7 The New Regulation of the European Union on Artificial Intelligence: Fuzzy Ethics Diffuse into Domestic Law and Sideline International Law
   Thomas Burri                                             104
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Author(s)</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Fostering the Common Good: An Adaptive Approach Regulating High-Risk AI-Driven Products and Services</td>
<td>Thorsten Schmidt and Silja Voeneky</td>
<td>123</td>
</tr>
<tr>
<td>9</td>
<td>China’s Normative Systems for Responsible AI: From Soft Law to Hard Law</td>
<td>Weixing Shen and Yun Liu</td>
<td>150</td>
</tr>
<tr>
<td>10</td>
<td>Towards a Global Artificial Intelligence Charter</td>
<td>Thomas Metzinger</td>
<td>167</td>
</tr>
<tr>
<td>11</td>
<td>Intellectual Debt: With Great Power Comes Great Ignorance</td>
<td>Jonathan Zittrain</td>
<td>176</td>
</tr>
<tr>
<td>12</td>
<td>Liability for Artificial Intelligence: The Need to Address Both Safety Risks and Fundamental Rights Risks</td>
<td>Christiane Wendehorst</td>
<td>187</td>
</tr>
<tr>
<td>14</td>
<td>Differences That Make a Difference: Computational Profiling and Fairness to Individuals</td>
<td>Wilfried Hinsch</td>
<td>229</td>
</tr>
<tr>
<td>15</td>
<td>Discriminatory AI and the Law: Legal Standards for Algorithmic Profiling</td>
<td>Antje von Ungern-Sternberg</td>
<td>252</td>
</tr>
<tr>
<td>16</td>
<td>Artificial Intelligence and the Right to Data Protection</td>
<td>Ralf Poscher</td>
<td>281</td>
</tr>
<tr>
<td>17</td>
<td>Artificial Intelligence as a Challenge for Data Protection Law: And Vice Versa</td>
<td>Boris P. Paal</td>
<td>290</td>
</tr>
<tr>
<td>18</td>
<td>Data Governance and Trust: Lessons from South Korean Experiences Coping with COVID-19</td>
<td>Sangchul Park, Yong Lim, and Haksoo Ko</td>
<td>309</td>
</tr>
<tr>
<td>19</td>
<td>From Corporate Governance to Algorithm Governance: Artificial Intelligence as a Challenge for Corporations and Their Executives</td>
<td>Jan Lieder</td>
<td>331</td>
</tr>
</tbody>
</table>

**PART III RESPONSIBLE AI LIABILITY SCHEMES**

**PART IV FAIRNESS AND NONDISCRIMINATION IN AI SYSTEMS**

**PART V RESPONSIBLE DATA GOVERNANCE**

**PART VI RESPONSIBLE CORPORATE GOVERNANCE OF AI SYSTEMS**
## Contents

20 Autonomization and Antitrust: On the Construal of the Cartel Prohibition in the Light of Algorithmic Collusion  
Stefan Thomas  
347

21 Artificial Intelligence in Financial Services: New Risks and the Need for More Regulation?  
Matthias Paul  
359

PART VII RESPONSIBLE AI HEALTHCARE AND NEUROTECHNOLOGY GOVERNANCE

22 Medical AI: Key Elements at the International Level  
Fruzsina Molnár-Gábor and Johanne Giesecke  
379

23 “Hey Siri, How Am I Doing?”: Legal Challenges for Artificial Intelligence Alter Egos in Healthcare  
Christoph Krönke  
397

24 ‘Neurorights’: A Human Rights–Based Approach for Governing Neurotechnologies  
Philipp Kellmeyer  
412

25 AI-Supported Brain–Computer Interfaces and the Emergence of ‘Cyberbilities’  
Boris Essmann and Oliver Mueller  
427

PART VIII RESPONSIBLE AI FOR SECURITY APPLICATIONS AND IN ARMED CONFLICT

26 Artificial Intelligence, Law, and National Security  
Ebrahim Afsah  
447

27 Morally Repugnant Weaponry? Ethical Responses to the Prospect of Autonomous Weapons  
Alex Leveringhaus  
475

28 On ‘Responsible AI’ in War: Exploring Preconditions for Respecting International Law in Armed Conflict  
Dustin A. Lewis  
488