

Preface	xxiii
Acknowledgments	xxv
About the Authors	xxxi
 PART I: LEGAL REASONING AND THE FOUNDATIONS OF AI	 1-1
 Chapter 1: Introduction to Artificial Intelligence and Legal Reasoning	 1-3
A. Why Do Lawyers Need to Innovate and Adopt Technology for Legal Services?	1-3
B. Roadmap for the Future	1-8
Daniel W. Linna Jr., Leveraging Technology to Improve Legal Services: A Framework for Lawyers	1-8
C. What Is Legal Reasoning?	1-14
Larry O. Natt Gantt II, Deconstructing Thinking Like a Lawyer: Analyzing the Cognitive Components of the Analytical Mind	1-15
D. Judgment as a Skill for Effective Lawyering	1-19
E. AI and Legal Reasoning	1-20
Bruce G. Buchanan and Thomas E. Headrick, Some Speculation About Artificial Intelligence and Legal Reasoning	1-21
F. Computational Law	1-30
Michael Genesereth, Computational Law: The Cop in the Backseat	1-31
Edwina L. Rissland, Artificial Intelligence and Law: Stepping Stones to a Model of Legal Reasoning	1-38
G. Combining Rules- and Data-Driven Approaches to Legal Reasoning	1-43
T.Y.S.S. Santosh et al., Towards Supporting Legal Argumentation with NLP: Is More Data Really All You Need?	1-44

Chapter 2: Demystifying Artificial Intelligence and Data Science	2-1
A. What Is Artificial Intelligence?	2-2
1. Narrow Versus General Artificial Intelligence	2-4
2. Algorithms	2-6
3. Rules-Driven AI (Symbolic AI)	2-7
4. Data-Driven AI (Machine Learning)	2-9
5. Deep Learning	2-10
6. Natural Language Processing	2-11
7. Data Science	2-11
Nigel Shadbolt, “From So Simple a Beginning”: Species of Artificial Intelligence	2-14
B. Machine Learning and Deep Learning	2-24
Dave Bergmann, What Is Machine Learning?	2-25
Ian Goodfellow et al., <i>Deep Learning</i> , Chapter 1: Introduction	2-31
Ian Goodfellow et al., <i>Deep Learning</i> , Chapter 5: Machine Learning Basics	2-36
Ian Goodfellow et al., <i>Deep Learning</i> , Chapter 1: Introduction	2-44
C. Large Language Models	2-53
Matthew Burtell & Helen Toner, Large Language Models Explained (Part 1)	2-53
Matthew Burtell & Helen Toner, Large Language Models Explained (Part 2)	2-59
Thomas Woodside & Helen Toner, Large Language Models Explained (Part 3)	2-68
D. Large Language Models and Legal Tasks	2-73
Harry Surden, ChatGPT, Large Language Models, and Law	2-73
E. Prompt Engineering	2-78
Sophia Qin & Aaron Wilkowitz, ChatGPT Enterprise Prompting Guide	2-79
1. Prompt Injection Attacks	2-89
F. Retrieval Augmented Generation	2-91
Rick Merritt, What Is Retrieval-Augmented Generation, aka RAG?	2-92
G. AI Agents and Agentic AI	2-97
Google Cloud, What Is an AI Agent?	2-97
1. Workflow or Agent?	2-102
2. Context Engineering	2-104
3. Why Context Engineering Is Important to Building Capable Agents	2-105
4. Models, Apps, and Harnesses	2-106

Contents	xiii
H. Data Science	2-109
Daniel Martin Katz et al., A General Approach for Predicting the Behavior of the Supreme Court of the United States	2-110
PART II: ASSESSING AI AND PROFESSIONAL RESPONSIBILITY	3-1
Chapter 3: Evaluating AI Capabilities, Benefits, and Risks	3-3
A. AI Risks	3-7
Chloe Autio et al., Artificial Intelligence Risk Management Framework: Generative Artificial Intelligence Profile	3-8
1. Bias in AI Systems	3-19
2. Gaming and Adversarial Attacks	3-24
3. AI and the Environment	3-26
USGAO, Artificial Intelligence: Generative AI's Environmental and Human Effects	3-26
Shaolei Ren & Amy Luers, There Are Many Ways to Minimise Water Use Related to AI Operations, But They May Not Be What You Think	3-28
B. Evaluating Generative AI for Use in Legal Services	3-34
Daniel W. Linna Jr., Evaluating Legal Services: The Need for a Quality Movement and Standard Measures of Quality and Value	3-34
William Koehrsen, Beyond Accuracy: Precision and Recall	3-60
Fabrizio Dell'Acqua et al., Navigating the Jagged Technological Frontier: Field Experimental Evidence of the Effects of AI on Knowledge Worker Productivity and Quality	3-65
Varun Magesh et al., Hallucination-Free? Assessing the Reliability of Leading AI Legal Research Tools	3-79
Mike Dahn, Our Commitment to Our Customers	3-103
LexisNexis, Stanford Study Finds Lexis+ AI Provides Accurate Responses at "More Than Three Times" the Rate of Thomson Reuters Product	3-105
Mike Dahn, How Harmful Are Errors in AI Research Results?	3-106
C. Frameworks for Managing AI Risk in Legal Organizations	3-110
1. Responsible AI Principles in Legal Organizations	3-110
2. Impact Assessments in Emerging AI Law	3-112
3. Training Lawyers to Assess Artificial Intelligence	3-116
4. Vendor Due Diligence	3-117

Chapter 4: Lawyer Rules of Professional Responsibility	4-1
A. Competence and Artificial Intelligence	4-1
<i>Mata v. Avianca</i>	4-2
<i>Fletcher v. Experian Information Solutions, Inc.</i>	4-16
1. Courts Addressing AI “Hallucinations” with Technology	4-22
2. Lawyers Using GenAI Tools in Court Matters	4-23
3. Unrepresented Litigants Using GenAI Tools	4-24
B. Confidentiality and Artificial Intelligence	4-26
1. Confidentiality Risks Posed by Artificial Intelligence	4-27
2. Preserving Attorney-Client Privilege and Work-Product Doctrine Protections	4-33
<i>United States v. Heppner</i>	4-34
<i>Warner v. Gilbarco, Inc.</i>	4-39
<i>ABA Formal Opinion 512</i>	4-41
C. AI Output as Evidence and Use by Experts	4-60
<i>Kohls v. Ellison</i>	4-61
 PART III: APPLICATIONS OF AI IN LAW	 5-1
 Chapter 5: AI in Courts and Other Dispute Resolution Fora	 5-3
A. AI in the Courts Before Generative AI	5-4
<i>State of Wisconsin v. Loomis</i>	5-4
B. AI in the Courts: The Generative AI Era	5-23
Chief Justice John G. Roberts, Jr.’s 2023 Year-End Report on the Federal Judiciary	5-24
Anika Jaitley et al., Artificial Intelligence in Federal Courts: A Random-Sample Survey of Judges	5-27
C. Judges Using Gen AI Tools	5-38
<i>Snell v. United Specialty Insurance Company</i>	5-39
<i>United States v. Deleon</i>	5-51
<i>Ross v. United States</i>	5-59
D. Guidance on Judicial Use of Gen AI	5-67
COSCA, Generative AI and the Future of the Courts: Responsibilities and Possibilities, Conference of State Court Administrators	5-68
Hon. Herbert B. Dixon Jr. et al., Navigating AI in the Judiciary: New Guidelines for Judges and Their Chambers	5-75
James Grimmelmann et al., Generative Misinterpretation	5-79

Amy B. Cyphert et al., Judicial Use of Generative AI: Lessons Learned	5-93
E. Algorithmic Adjudication in Courts, Administrative Agencies & ADR	5-99
April G. Dawson, Algorithmic Adjudication and Constitutional AI: The Promise of a Better AI Decision Making Future?	5-100
James Grimmelmann et al., Generative Misinterpretation	5-104
Kurt Glaze et al., Artificial Intelligence for Adjudication: The Social Security Administration and AI Governance	5-106
Hannes Westermann et al., LLMediator: GPT-4 Assisted Online Dispute Resolution	5-114
Chapter 6: AI in Disputes and Litigation	6-1
A. AI Use Cases in Disputes	6-3
Peter Henderson et al., On the Opportunities and Risks of Foundation Models	6-3
B. AI Across the Lifecycle of a Dispute	6-12
1. Attorney-Client Privilege, Work-Product Doctrine, and Protective Orders	6-12
<i>Morgan v. V2X, Inc.</i>	6-13
2. Direct-to-User Legal Guidance	6-21
3. Pre-Filing and Demand	6-22
a. Data Analytics in Litigation	6-22
Harvard Law School Center on the Legal Profession, Data in the Court	6-23
4. AI for Legal Research	6-28
5. Brainstorming in the Litigation Process	6-30
6. Automating the Drafting of Litigation Documents	6-30
7. Addressing AI at Litigation Court Conferences	6-31
8. Discovery	6-33
a. Technology Assisted Review in e-Discovery	6-33
b. Depositions	6-33
c. Expert Witnesses	6-34
<i>Conservation Law Foundation, Inc. v. Shell Oil Company et al.</i>	6-34
d. Robustness of Technology Assisted Review	6-35
Neel Guha et al., Vulnerabilities in Discovery Tech	6-36

9. Trial	6-49
<i>U.S. v. Prakazrel Michel</i>	6-49
10. AI Generated Transcripts	6-53
<i>In the Matter of the Marion County Expedited Mental Health Appeals Pilot Project</i>	6-55
Expedited Appeals for Involuntary Commitments Using AI Transcripts	6-55
C. AI in Alternative Dispute Resolution	6-57
1. Arbitrator Use of AI	6-57
Guidance on Arbitrators' Use of AI Tools	6-58
Opinion No. 28: The Arbitrator's Use of AI	6-60
2. Addressing AI Use in Arbitration Clauses and Terms of Reference	6-64
T. Michael Guiffre et al., Consideration of Artificial Intelligence in Arbitration Terms of Reference	6-65
3. Seeking to Vacate an Arbitration Award Based on AI Use	6-68
<i>Lapaglia v. Valve Corporation</i>	6-71
Chapter 7: AI for Contracts, Transactions, and Regulatory Compliance	7-1
A. AI for Contracts and Transactions	7-4
Kingsley Martin, Deconstructing Contracts: Contract Analytics and Contract Standards	7-5
Helena Haapio & Daniel W. Linna Jr., Contract Quality and AI: Garbage In, Garbage Out?	7-16
John Cummins & Christopher D. Clack, Transforming Commercial Contracts Through Computable Contracting	7-22
<i>Fortis Advisors, LLC v. Krafton, Inc.</i>	7-34
B. AI for Regulatory Compliance	7-40
Daniel W. Linna Jr., Collaborative Disaggregation: Law Firms Can Delight Clients with the Right Technology	7-41
Jules Ioannidis et al., Gracenote.ai: Legal Generative AI for Regulatory Compliance	7-43
Paul Ohm, Toward Compliance Zero: AI and the Vanishing Costs of Regulatory Compliance	7-47
Chapter 8: AI for Criminal and Public Law	8-1
A. Criminal Law	8-2
1. An Introduction to AI in Criminal Law and Public Law	8-2
Peter Henderson et al., On the Opportunities and Risks of Foundation Models	8-2

Contents	xvii
2. AI for Prosecutors	8-4
Rory Pulvino et al., Hiding in Plain Sight: An Empirical Study of Prosecutorial Bias in AI Legal Analysis	8-5
3. AI for Public Defenders	8-33
Jim Ash, Miami-Dade Public Defender Is Using Artificial Intelligence for Research and Case Preparation	8-33
B. Legislation and Coding Law	8-36
1. Formalizing Laws and Regulations	8-36
Kevin Ashley, Modeling Statutory Reasoning	8-37
Sarah B. Lawsky, Coding the Code: Catala and Computationally Accessible Tax Law	8-45
C. AI in Government	8-52
Daniel E. Ho et al., Evaluation as Due Process: Civil Service in an Automated Age	8-52
Alan Z. Rozenshtein, The Unitary Artificial Executive	8-67
 Chapter 9: AI for Access to Legal Services and Justice	 9-1
A. The Access to Justice Gap—A Decade-Long Discussion	9-4
Deborah L. Rhode, Access to Justice: A Roadmap for Reform	9-5
Rebecca L. Sandefur, What We Know and Need to Know About the Legal Needs of the Public	9-16
B. The Access to Justice Gap and Emerging Technology	9-23
Generative AI and the Future of the Courts: Responsibilities and Possibilities	9-23
Colleen Chien & Miriam Kim, Generative AI and Legal Aid: Results from a Field Study and 100 Use Cases to Bridge the Access to Justice Gap	9-26
AI and Access to Justice: A Snapshot of Current Trends and Future Potential	9-39
 PART IV: REGULATING LEGAL SERVICES AND AI	 10-1
 Chapter 10: Regulation of Legal Services	 10-3
A. Unauthorized Practice of Law (UPL)	10-4
<i>Florida Bar v. TIKD Services LLC</i>	10-5
1. UPL Background	10-19
ABA Model Rule of Professional Conduct 5.5	10-20
Ed Walters, Re-Regulating UPL in an Age of AI	10-22
2. UPL Applied to AI Legal Tools	10-27

a. LegalZoom	10-29
b. DoNotPay	10-30
c. Nippon Life Ins. Co. of Am. v. OpenAI Found.	10-31
d. Garfield.Law & LawFairy	10-32
3. UPL Applied to Paraprofessionals	10-33
<i>Upsolve, Inc. v. James</i>	10-35
4. UPL Reform Pathways	10-44
Bruce A. Green and Ellen Murphy, Replacing This Old House: Certifying and Regulating New Legal Services Providers	10-44
TRI/NCSC AI Policy Consortium for Law & Courts, Modernizing Unauthorized Practice of Law Regulations to Embrace AI-Driven Solutions and Improve Access to Justice	10-49
B. Prohibition on Fee-Sharing and Nonlawyer Ownership of Law Firms	10-59
ABA Model Rule of Professional Conduct 5.4	10-60
Association of Professional Responsibility Lawyers, Future of Lawyering Subcommittee's Report Regarding Proposed Revisions to ABA Model Rule 5.4	10-67
1. International Law Firm Ownership Reformation	10-70
2. Rule 5.4 Reform and Access to Justice	10-73
Chapter 11: AI Regulation and Governance	11-1
A. What Is AI Governance?	11-3
Artificial Intelligence Risk Management Framework	11-5
B. The Evolving AI Regulatory Landscape	11-6
1. Global Regulatory Trends	11-7
a. European Union AI Act	11-7
b. General Data Protection Regulation (GDPR)	11-12
c. The Brussels Effect	11-14
d. Council of Europe Framework Convention on Artificial Intelligence	11-15
e. Other Notable Global AI Regulations	11-17
2. AI Regulations in the United States	11-25
a. Federal Efforts	11-25
(1) Executive Orders and White House Policy	11-25
(2) Federal Statute Touching AI	11-28
(3) Agency Enforcement and Guidance	11-29
(4) Federal Challenges to State AI Regulation	11-35

b. State-Level AI Regulations	11-39
(1) Colorado Artificial Intelligence Act (CAIA)	11-40
(2) Other States Considering Comprehensive AI Regulation	11-42
c. Targeted State and Municipal Laws Impacting AI Regulation	11-46
(1) Illinois' Biometric Information Privacy Act (BIPA) and AI Hiring Laws	11-46
(2) Washington Facial Recognition Law	11-49
(3) New York City's Automated Employment Decision Tools (AEDT) Law	11-50
(4) Tennessee Ensuring Likeness Voice and Image Security (ELVIS) Act	11-51
d. Privacy Laws Impacting AI Regulation	11-52
(1) General Data Protection Regulation (GDPR)	11-52
(2) California Consumer Privacy Act (CCPA) and the California Privacy Rights Act (CPRA)	11-52
e. Other Laws Impacting AI Regulation	11-53
<i>Garcia v. Character Technologies, Inc.</i>	11-55
C. AI Governance Principles and Frameworks	11-75
1. AI Governance Principles	11-75
a. OECD AI Principles and the OECD Framework for the Classification of AI	11-75
b. Fair Information Practice Principles (FIPPs)	11-76
c. UNESCO's Recommendation on the Ethics of Artificial Intelligence	11-76
2. AI Governance Frameworks	11-77
a. NIST AI RMF	11-78
National Institute of Standards and Technology, U.S. Department of Commerce, Artificial Intelligence Risk Management Framework	11-78
3. AI Governance-Related Standards	11-83
a. International Organization for Standardization (ISO) / International Electrotechnical Commission (IEC) Standards	11-84
(1) ISO/IEC 42001—Artificial intelligence—Management system (2023)	11-84
(2) ISO/IEC 22989—Information technology—Artificial intelligence—Artificial intelligence concepts and terminology (2022)	11-85
(3) ISO/IEC 42005—AI Impact Assessment Guidance (2025)	11-85
(4) ISO/IEC 23894—AI Risk Management Guidance (2023)	11-86
(5) ISO/IEC 38507—AI Governance for Boards and Leadership Guidance (2022)	11-86

Chapter 14: Future of Law Firms, Lawyering, Legal Services, and the Law	14-1
Richard Susskind, AI, Work and “Outcome-Thinking”	14-2
A. Future of Law Firms	14-5
B. Future of Lawyering	14-10
1. New Law Firm Models	14-12
a. Clearspire: A Law Firm at the Intersection of Law, Business, and Technology	14-12
Mark A. Cohen, The Clearspire Story	14-13
b. Atrium: Silicon Valley Goes All-In on LegalTech	14-24
Nico Kuhlmann, Building the Tesla for Legal—Interview with BeBe Chueh (Co-Founder of Atrium LLP)	14-25
c. AI-Native Firms on the Rise	14-30
Dorna Moini, AI-Native and Venture-Backed Law Firms Are Emerging. Here’s How Traditional Law Firms Should Respond.	14-31
C. Future of the Law	14-34
1. Law as an Information System	14-35
Daniel W. Linna Jr., The Future of Law and Computational Technologies: Two Sides of the Same Coin	14-35
2. AI Agents and the Idea of “Law-Following” Design	14-37
Cullen O’Keefe et al., Law-Following AI: Designing AI Agents To Obey Human Laws	14-38