## Contents

	List	of Contributors po	<i>ige</i> ix			
	Prefe	ace	XV			
1	Intro	oduction	1			
	Dan Wu, Guoye Sun, and Shaobo Liang					
	1.1	Background	1			
	1.2	Research Implications	5			
	1.3	Structure of the Book	8			
2	User	Interaction for Human-AI Interaction and Collaboration	<b>n</b> 14			
	Dan	Wu and Qingyue Guo				
	2.1	Introduction	14			
	2.2	From Human-Computer Interaction to Human-AI				
		Interaction and Collaboration	15			
	2.3	A Framework of Human-AI Interaction and				
		Collaboration	19			
	2.4	Interaction Quality in Human-AI Interaction				
		and Collaboration	21			
	2.5	Interaction Mode in Human-AI Interaction				
		and Collaboration	27			
	2.6	Future Directions and Challenges	31			
3	Priv	acy Identification of Human-Generative AI Interaction	43			
	Dan	Dan Wu and Guoye Sun				
	3.1	Introduction	43			
	3.2	Related Concepts	45			
	3.3	Construction of Privacy Type Model	53			
	3.4	Application Value of Privacy Type Model	71			
	3.5	Summary	76			

vi Contents

4	Cred	libility Assessment of Human-Generative AI Interaction	82	
	Yuxiang Chris Zhao, Shijie Song, and Yutian Jing			
	4.1	Introduction	82	
	4.2	The Concept of AI Credibility	83	
	4.3	Measures of AI Credibility in Human-Generative		
		AI Interaction	86	
	4.4	Influences on Credibility Assessment in		
		Human-Generative AI Interaction	88	
	4.5	Challenges in Credibility Assessment of		
		Human-Generative AI Interaction	91	
	4.6	Ways to Enhance the Credibility Assessment in		
		Human-Generative AI Interaction	92	
	4.7	Domains of Credibility Assessment in		
		Human–Generative AI	93	
	4.8	Future Research Agenda	96	
	4.9	Conclusion	98	
5	AI-s	upported Crowdsourcing for Knowledge Sharing	110	
	Chei	Sian Lee, Dion Hoe-Lian Goh, Hang Guo,		
	Kok I	Khiang Lim, and Qian Wu		
	5.1	Introduction	110	
	5.2	Background on AI-supported Crowdsourcing	113	
	5.3	Systematic Review of AI-supported Crowdsourcing	116	
	5.4	Case Study	122	
	5.5	Recommendations	127	
6	AI-s	upported Search Interaction for Enhancing		
	User	rs' Understanding	135	
	Shao	bo Liang and Chenrui Shi		
	6.1	Introduction	135	
	6.2	Literature Review	137	
	6.3	Research Design	139	
	6.4	Findings	143	
	6.5	Discussion and Conclusion	149	
7	AI fo	AI for Human and Misinformation Interactions:		
	A C	ase of Social Media	153	
	Nann	an Huang, Xiuzhen Zhang, and Jia Tina Du		
	7.1	Introduction	153	
	7.2	Literature Review	155	
	7.3	Methodology and Data	157	

Contents vii

	7.4	Results	165
	7.5	Discussion	168
	7.6	Conclusion	170
8	Effec	tive Human-AI Collaborative Intelligence	175
	Zhuoren Jiang and Xiaozhong Liu		
	8.1	Introduction	175
	8.2	Technical Foundations of Human-AI Collaboration	179
	8.3	Practical Applications and Case Studies	193
	8.4	Future Directions	200
	8.5	Conclusion	204
9	Human-AI Collaboration for Identifying Health		
		mation Wants	213
	Zhuoo	chun Li, Zhimeng Luo, Ning Zou, Bo Xie, and Daqing He	
	9.1	Introduction	213
	9.2	Literature Review	216
	9.3	Background	219
	9.4	Human–AI Collaboration for HIW Identifications	222
	9.5	Experiments	224
	9.6	Results	228
	9.7	Discussions	231
	9.8	Conclusions	233
10	Human-AI Collaboration for Scientific Discovery		239
		Zhao, Yang Liu, Jiayu Wan, Tan Tang, and Xin Li	
	10.1	Introduction	239
	10.2	Human–AI Collaboration in Mathematics	245
		Human-AI Collaboration in Physics	248
		Human-AI Collaboration in Chemistry	251
	10.5		255
	10.6	Summary	259
11	Challenges of Generative AI on Human-AI Interaction		
	and Collaboration		268
	Shaob	oo Liang and Yiting Cai	
	11.1	User-level Challenges	268
	11.2	Algorithm Optimization Challenges	271
	11.3	Psychological Game in Human–AI Interaction	
		and Collaboration	275
	11.4	Countermeasures	278

viii Contents

12	Conclusion	284
	Dan Wu, Guoye Sun, and Shaobo Liang	
	12.1 Key Findings in Human–AI Interaction	
	and Collaboration	284
	12.2 Future Challenges	289
	12.3 Prospects for Coping Strategies	291