

Contents

<i>List of Figures</i>	page viii
<i>List of Tables</i>	x
<i>List of Listings</i>	xii
<i>Preface</i>	xiii
PART I CORPORATE SURVEILLANCE LANDSCAPE	1
1 Corporate Surveillance and the Need for Transparency	3
1.1 Evolution of Online Corporate Surveillance	3
1.2 Ecosystem of Corporate Surveillance	5
1.3 Motives for Corporate Surveillance	7
1.4 Undesirable Effects of Corporate Surveillance	9
1.5 Need for Transparency	11
2 Technologies for Corporate Surveillance	14
2.1 Networking Services	14
2.2 Web-Based Services	21
2.3 Mobile Services	24
3 Methods of Corporate Surveillance	28
3.1 Tracking	28
3.2 Profiling	39
3.3 Analytics	44
3.4 Advertising	45
PART II METHODS	57
4 Experiment Design	59
4.1 Research Questions	59
4.2 Study Designs	65

4.3	Longitudinal Studies	70
4.4	Challenges of Studying Black-Box Systems	70
4.5	Input Variables	74
4.6	Response Variables	87
5	Data Collection	101
5.1	Ethical Considerations	101
5.2	Archival Data Sources	108
5.3	Passive Data Collection	111
5.4	Active Data Collection	112
5.5	Data Collection from Mobile Apps	118
5.6	Crowdsourcing	118
5.7	Data Storage	123
6	Data Analysis	125
6.1	Quantitative Measures for Transparency Research	125
6.2	Heuristics for Extracting Response Variables	132
6.3	Machine Learning and Natural Language Processing	147
6.4	Analysis of Mobile Apps	161
6.5	Statistics	164
	PART III RESULTS	175
7	Transparency for Corporate Surveillance Methods	177
7.1	Tracking	177
7.2	Profiling	186
7.3	Analytics	188
7.4	Advertising	188
8	Transparency for Corporate Services	200
8.1	Networking Services	200
8.2	Web-Based Services	202
8.3	Mobile Services	218
9	Effectiveness of Countermeasures	225
9.1	Ad Blockers	225
9.2	Tracker Blockers	235
9.3	Fingerprinting Blockers	237
9.4	Obfuscation	240
9.5	Tools to Raise User Awareness	242
9.6	Tools for Mobile Applications	243

Contents vii

PART IV GAPS AND CHALLENGES	245
10 Making It Count: Towards Real-World Impact	247
10.1 Planning for Real-World Impact	249
10.2 Engaging Stakeholders and Communicating Results	251
11 Future Directions in Transparency Research	264
11.1 Methodological Challenges	264
11.2 Open Research Questions	272
11.3 Internet of Things	276
11.4 Smart Cities	280
<i>References</i>	285
<i>Index</i>	321