

List of Figures	ix
List of Tables	xiv
Notes on Contributors	xv
Preface	xxiii
Introduction	1
Part I Formal Foundations	9
1 Formal Language Theory	11
SHULY WINTNER	
2 Computational Complexity in Natural Language	43
IAN PRATT-HARTMANN	
3 Statistical Language Modeling	74
CIPRIAN CHELBA	
4 Theory of Parsing	105
MARK-JAN NEDERHOF AND GIORGIO SATTA	
Part II Current Methods	131
5 Maximum Entropy Models	133
ROBERT MALOUF	
6 Memory-Based Learning	154
WALTER DAELEMANS AND ANTAL VAN DEN BOSCH	
7 Decision Trees	180
HELMUT SCHMID	
8 Unsupervised Learning and Grammar Induction	197
ALEXANDER CLARK AND SHALOM LAPPIN	
9 Artificial Neural Networks	221
JAMES B. HENDERSON	

10	Linguistic Annotation	238
	MARTHA PALMER AND NIANWEN XUE	
11	Evaluation of NLP Systems	271
	PHILIP RESNIK AND JIMMY LIN	
Part III Domains of Application		297
12	Speech Recognition	299
	STEVE RENALS AND THOMAS HAIN	
13	Statistical Parsing	333
	STEPHEN CLARK	
14	Segmentation and Morphology	364
	JOHN A. GOLDSMITH	
15	Computational Semantics	394
	CHRIS FOX	
16	Computational Models of Dialogue	429
	JONATHAN GINZBURG AND RAQUEL FERNÁNDEZ	
17	Computational Psycholinguistics	482
	MATTHEW W. CROCKER	
Part IV Applications		515
18	Information Extraction	517
	RALPH GRISHMAN	
19	Machine Translation	531
	ANDY WAY	
20	Natural Language Generation	574
	EHUD REITER	
21	Discourse Processing	599
	RUSLAN MITKOV	
22	Question Answering	630
	BONNIE WEBBER AND NICK WEBB	
	References	655
	Author Index	742
	Subject Index	763