

Contents

Preface	<i>page vii</i>
A quick tour through the book	xi
Acknowledgments	xiii
Prologue: Blog entry from Jonathan Hey	xv
1 Beginnings of a revolution	1
2 The hardware	23
3 The software is in the holes	39
4 Programming languages and software engineering	58
5 Algorithmics	84
6 Mr. Turing's amazing machines	102
7 Moore's law and the silicon revolution	120
8 Computing gets personal	141
9 Computer games	174
10 Licklider's Intergalactic Computer Network	192
11 Weaving the World Wide Web	220
12 The dark side of the web	243
13 Artificial intelligence and neural networks	263
14 Machine learning and natural language processing	280

15 The end of Moore's law	298
16 The third age of computing	318
17 Computers and science fiction - an essay	333
Epilogue: From Turing's padlocked mug to the present day	359
Appendix 1. Length scales	361
Appendix 2. Computer science research and the information technology industry	362
How to read this book	365
Notes	367
Suggested reading	377
Figure credits	381
Name index	389
General index	393