

## CONTENTS

Publisher's Note . . . . .	vii	Data analytics (DA) . . . . .	95
Editor's Introduction . . . . .	ix	Deep learning . . . . .	97
Abstraction . . . . .	1	Digital logic . . . . .	99
Advanced encryption standard (AES) . . . . .	3	DNA computing . . . . .	103
Agile robotics . . . . .	5	Domain-specific language (DSL) . . . . .	105
Algorithm . . . . .	7	Empirical formula . . . . .	106
Analysis of variance (ANOVA) . . . . .	8	Evaluating expressions . . . . .	107
Application programming interface (API) . . . . .	10	Expert system . . . . .	110
Artificial intelligence . . . . .	12	Extreme value theorem . . . . .	112
Augmented reality . . . . .	17	Fiber technologies . . . . .	114
Automated processes and servomechanisms . . . . .	19	Fullerene . . . . .	118
Autonomous car . . . . .	23	Fuzzy logic . . . . .	120
Avatars and simulation . . . . .	26	Game theory . . . . .	122
Behavioral neuroscience . . . . .	28	Geoinformatics . . . . .	125
Binary pattern . . . . .	30	Go . . . . .	130
Biomechanical engineering . . . . .	31	Grammatology . . . . .	131
Biomechanics . . . . .	34	Graphene . . . . .	135
Biomimetics . . . . .	38	Graphics technologies . . . . .	137
Bionics and biomedical engineering . . . . .	40	Holographic technology . . . . .	141
Bioplastic . . . . .	44	Human-computer interaction . . . . .	144
Bioprocess engineering . . . . .	46	Hydraulic engineering . . . . .	149
C . . . . .	51	Hypertext markup language (HTML) . . . . .	153
C++ . . . . .	53	Integral . . . . .	155
Central limit theorem . . . . .	54	Internet of Things (IoT) . . . . .	156
Charles Babbage's difference and analytical engines . . . . .	56	Interoperability . . . . .	158
Client-server architecture . . . . .	58	Interval . . . . .	161
Cognitive science . . . . .	60	Kinematics . . . . .	163
Combinatorics . . . . .	62	Limit of a function . . . . .	166
Computed tomography . . . . .	63	Linear programming . . . . .	167
Computer engineering . . . . .	67	Local area network (LAN) . . . . .	169
Computer languages, compilers, and tools . . . . .	71	Machine code . . . . .	172
Computer memory . . . . .	74	Magnetic storage . . . . .	173
Computer networks . . . . .	76	Mechatronics . . . . .	177
Computer simulation . . . . .	80	Microcomputer . . . . .	179
Computer software . . . . .	82	Microprocessor . . . . .	181
Computer-aided design and manufacturing . . . . .	84	Motion . . . . .	183
Continuous random variable . . . . .	88	Multitasking . . . . .	185
Cybernetics . . . . .	89		
Cybersecurity . . . . .	91		
Cyberspace . . . . .	93		

Nanoparticle . . . . .	188	Self-management . . . . .	262
Nanotechnology . . . . .	190	Semantic web . . . . .	264
Network interface controller (NIC) . . . . .	194	Sequence . . . . .	266
Network topology . . . . .	196	Series . . . . .	267
Neural engineering . . . . .	198	Set notation . . . . .	269
Numerical analysis . . . . .	203	Siri . . . . .	270
		Smart city . . . . .	271
Objectivity (science) . . . . .	207	Smart homes . . . . .	273
Object-oriented programming (OOP) . . . . .	208	Smart label . . . . .	275
Open access (OA) . . . . .	210	Smartphones, tablets, and handheld devices . . . . .	277
Optical storage . . . . .	213	Soft robotics . . . . .	279
		Solar cell . . . . .	281
Parallel computing . . . . .	217	Space drone . . . . .	284
Pattern recognition . . . . .	221	Speech recognition . . . . .	286
Photogrammetry . . . . .	224	Stem-and-leaf plots . . . . .	288
Pneumatics . . . . .	226	Structured query language (SQL) . . . . .	288
Polymer science . . . . .	230	Stuxnet . . . . .	290
Probability and statistics . . . . .	233	Supercomputer . . . . .	292
Programming languages for artificial intelligence . . . . .	238	Turing test . . . . .	295
Proportionality . . . . .	240	Unix . . . . .	297
Public-key cryptography . . . . .	241		
Python . . . . .	243	Video game design and programming . . . . .	300
		Virtual reality . . . . .	303
Quantum computing . . . . .	245		
		Z3 . . . . .	309
R . . . . .	247	Zombie . . . . .	311
Rate . . . . .	248		
Replication . . . . .	249	Time Line of Machine Learning and Artificial Intelligence . . . . .	315
Robotics . . . . .	250	A.M. Turing Awards . . . . .	327
Ruby . . . . .	256	Glossary . . . . .	331
		Bibliography . . . . .	358
Scale model . . . . .	258	Subject Index . . . . .	386
Scientific control . . . . .	259		
Scratch . . . . .	261		