

Suggested reading

1. Overviews of computer science

The following books provide a broad overview of different aspects of computing at an accessible level:

- Hal Abelson, Ken Ledeen, and Harry Lewis. *Blown to Bits: Your Life, Liberty, and Happiness After the Digital Explosion*. Pearson Education, Inc., 2008.
- Stan Augarten. *Bit by Bit: An Illustrated History of Computers*. Ticknor & Fields, 1984.
- Neil Barrett. *The Binary Revolution*. Weidenfeld & Nicolson, 2006.
- Martin Campbell-Kelly and William Aspray. *Computer: A History of the Information Machine*. Westview Press, 2004.
- David Harel. *Algorithmics: The Spirit of Computing*. Addison Wesley, 3rd ed., 2004.
- Daniel Hillis. *The Pattern on the Stone: The Simple Ideas That Make Computers Work*. Basic Books, 1998.

2. More detailed reading about specific topics

- Paul Allen. *Idea Man*. Portfolio/Penguin, 2011.
- Gordon Bell and Jim Gemmell. *Total Recall: How the E-Memory Revolution Will Change Everything*. Penguin Group USA, 2009.
- Tim Berners-Lee. *Weaving the Web*. Orion Business Books, 1999.
- Paul E. Ceruzzi. *A History of Modern Computing*. MIT Press, 1998.
- William J. Cook. *In Pursuit of the Traveling Salesman*. Princeton University Press, 2012.
- George Dyson. *Turing's Cathedral: The Origins of the Digital Universe*. Pantheon Books, 2012.

- Richard Feynman. *The Feynman Lectures on Computation*, edited by Tony Hey and Robin W. Allen. Perseus Books, 2000.
- Katie Hafner and Mathew Lyon. *Where Wizards Stay Up Late: The Origins of the Internet*. Touchstone, 1998.
- David Harel. *Computers Ltd: What They Really Can't Do*. Oxford University Press, 2000.
- Michael Hiltzik. *Dealers of Lightning: Xerox PARC and the Dawn of the Computer Age*. HarperCollins Publishers, 1999.
- Andrew Hodges. *Alan Turing: The Enigma of Intelligence*. Unwin Paperbacks, 1983.
- Tracy Kidder. *The Soul of a New Machine*. Little, Brown and Company, 1981.
- John MacCormick. *9 Algorithms that Changed the Future: The Ingenious Ideas that Drive Today's Computers*. Princeton University Press, 2012.
- Sharon Bertsch McGrayne. *The Theory that Would Not Die*. Yale University Press, 2011.
- Nate Silver. *The Signal and the Noise: Why So Many Predictions Fail – But Some Don't*. Penguin Group USA, 2012.
- Clifford Stoll. *The Cuckoo's Egg*. Pan Books, 1991.
- Doron Swade. *The Difference Engine: Charles Babbage and the Quest to Build the First Computer*. Penguin Books, 2002.
- Robert Slater. *Portraits in Silicon*. MIT Press, 1987.
- Mitchell Waldrop. *The Dream Machine: J. C. R. Licklider and the Revolution that Made Computing Personal*. Penguin Group USA, 2002.
- James Wallace and Jim Erickson. *Hard Drive: Bill Gates and the Making of the Microsoft Empire*. John Wiley, 1992.

3. Further reading by chapter

Chapter 1

- James Essinger. *Jacquard's Web*. Oxford University Press, 2004.
- Mike Hally. *Electronic Brains: Stories from the Dawn of the Computer Age*. Granta Publications, 2005.
- F. H. Hinsley and Alan Stripp (eds.). *Codebreakers: The Inside Story of Bletchley Park*. Oxford University Press, 1993.
- Brenda Maddox. *A Computer Called Leo*. Harper Perennial, 2004.
- Simon Winchester. *The Map that Changed the World*. Viking, 2001.
- Konrad Zuse. *The Computer – My Life*. Springer-Verlag, 1993.

Chapter 2

- John Hennessy and David Patterson. *Computer Architecture: A Quantitative Approach*. Elsevier and Morgan Kaufmann Publishers, 4th edition, 2006.
- Warren Fenton Stubbins. *Essential Electronics*. John Wiley & Sons, 1986.

Chapter 3

- J. Glenn Brookshear. *Computer Science: An Overview*. Addison-Wesley, 11th edition, 2012.
- Maurice Wilkes. *Memoirs of a Computer Pioneer*. MIT Press, 1985.
- Thomas J. Watson Jr. *Father, Son & Co. – My Life at IBM and Beyond*. Bantam, 1990.

Chapter 4

- David Barron. *The World of Scripting Languages*. John Wiley & Sons, 2000.
- Fred Brooks. *The Mythical Man Month*. Addison-Wesley, 1982.
- Michael Cusmano and Richard Selby. *Microsoft Secrets*. Touchstone Edition, 1998.
- Steve McConnell. *Code Complete: A Practical Handbook of Software Construction*. Microsoft Press, 2004.
- Eric Raymond. *The Cathedral and the Bazaar*. O'Reilly Media, 1999.
- Ian Sommerville. *Software Engineering*. Addison-Wesley, 6th edition, 2001.

Steve Weber. *The Success of Open Source*. Harvard University Press, 2004.

Chapter 5

- Alfred Aho, John Hopcroft, and Jeffrey Ullman. *Data Structures and Algorithms*. Addison-Wesley, 1987.
- Ira Pohl and Alan Shaw. *The Nature of Computation: An Introduction to Computer Science*. Computer Science Press, 1981.

Chapter 6

- Martin Davis. *The Universal Computer: The Road from Leibniz to Turing*. W. W. Norton & Company, 2000.
- B. Jack Copeland. *The Essential Turing: The Ideas that Gave Birth to the Computer Age*. Oxford University Press, 2004.
- Charles Petzold. *The Annotated Turing*. Wiley Publishing, 2008.

Chapter 7

- Michael Riordan and Lillian Hoddeson. *Crystal Fire: The Invention of the Transistor and the Birth of the Information Age*. W. W. Norton & Company, 1998.

Chapter 8

- Paul Freiberger and Michael Swaine. *Fire in the Valley: The Making of the Personal Computer*. McGraw-Hill Publishing, 2nd revised edition, 2000.
- Bill Gates. *The Road Ahead*. Viking, 1995.
- John Markoff. *What the Dormouse Said: How the 60s Counterculture Shaped the Personal Computer Industry*. Viking, 2005.

Chapter 9

- David Sheff. *Game Over: How Nintendo Conquered the World*. Vintage Books, 1993.

Chapter 10

- Jeff Hecht. *City of Light: The Story of Fiber Optics*. Oxford University Press, 1999.
- Stephen Segaller. *NERDS 2.0.1*. TV Books, 1998.
- Clay Shirky. *Here Comes Everybody*. Allen Lane, 2008.

Tom Standage. *The Victorian Internet: The Remarkable Story of the Telegraph and the Nineteenth Century's On-line Pioneers*. Walker and Company, 1998.

Jonathan Zittrain. *The Future of the Internet – And How to Stop It*. Allen Lane, 2008.

Chapter 11

danah boyd. *It's Complicated: The Social Lives of Networked Teens*. Yale University Press, 2014.

Amy Langville and Carl Meyer. *Google's PageRank and Beyond*. Princeton University Press, 2012.

Jaron Lanier. *You Are Not a Gadget*. Alfred A. Knopf, 2010.

David A. Vise. *The Google Story*. Delacourt Press, updated edition, 2008.

Chapter 12

Ross Anderson. *Security Engineering*. Wiley Publishing, 2nd edition, 2008.

Mark Bowden. *Worm: The First Digital World War*. Atlantic Monthly Press, 2011.

John Haynes and Harvey Klehr. *Venona: Decoding Soviet Espionage in America*. Yale University Press, 2000.

Jaron Lanier. *Who Owns the Future?* Simon & Schuster, 2013.

Stephen Roskill. *The Secret Capture*. Seaforth Publishing, 2011.

David Sanger. *Confront and Conceal: Obama's Secret Wars and Surprising Use of American Power*. Broadway Books, 2013.

Simon Singh. *The Code Book*. Fourth Estate Limited, 1999.

The RSA scheme is described in detail in an appendix of Singh's book.

Chapter 13

Stuart Russell and Peter Norvig. *Artificial Intelligence: A Modern Approach*. Prentice Hall, 3rd edition, 2010.

Chapter 14

Stephen Baker. *Final Jeopardy*. Houghton Mifflin Harcourt, 2011.

Devinderjit Sivia and John Skilling. *Data Analysis: A Bayesian Tutorial*. Oxford University Press, 2nd edition, 2006.

Chapter 15

Eric Drexler. *Engines of Creation: The Coming Era of Nanotechnology*. Doubleday, 1986.

Sandy Fritz. *Understanding Nanotechnology*. Warner Books, 2002.

Gerard Milburn. *Quantum Entanglement and the Computing Revolution: The Quantum Processor*. Perseus Books, 1998.

Ed Regis. *Nano!: Remaking the World Atom by Atom*. Bantam Press, 1995.

Chapter 16

Lee Gutkind. *Almost Human: Making Robots Think*. W. W. Norton and Company, 2006.

Jeff Hawkins and Sarah Blakeslee. *On Intelligence*. St. Martin's Press, 2004.

Christof Koch. *Consciousness: Confessions of a Romantic Reductionist*. MIT Press, 2012.

Daniel Dennett. *Consciousness Explained*. Penguin Books, 1993.

Marvin Minsky. *The Society of Mind*. Simon & Schuster, 1987.

Chapter 17

Lois Gresh and Robert Weinberg. *The Computers of Star Trek*. Basic Books, 1999.

David Seed. *Science Fiction: A Very Short Introduction*. Oxford University Press, 2011.

David G. Stork (ed.). *Hal's Legacy: 2001's Computer as Dream and Reality*. MIT Press, 1997.

Patricia Warrick. *The Cybernetic Imagination in Science Fiction*. MIT Press, 1980.

