Computer Science

Recommended Reading List

Check out the Computer Science department's list of recommended reads

The Code Book (Simon Singh)

The Code Book: The Science of Secrecy from Ancient Egypt to Quantum Cryptography is a book by Simon Singh, published in 1999 by Fourth Estate and Doubleday. The Code Book describes some illustrative highlights in the history of cryptography, drawn from both of its principal branches, codes and ciphers

Computational Fairy Tales by Jeremy Kubica; CreateSpace, 2012. A romp through the principles of computational thinking, illustrating high-level computer science concepts, the motivation behind them, and their application via the medium of a fairy tale. Aimed at secondary school students. "Bonkers, but very enjoyable."

Once Upon an Algorithm: How Stories Explain Computing by Martin Erwig; MIT Press, 2017. Concepts in Computer Science explained through familiar stories such as Hansel and Gretel, Sherlock Holmes, the movie Groundhog Day, and Harry Potter.

Computer Science: An Overview by J. Glenn Brookshear; Pearson, 2014. Overview of what computer science is all about: each topic is presented with its historical perspective, current state, and future potential, as well as ethical issues.

Code: The Hidden Language of Computer Hardware and Software by Charles Petzold. Microsoft Press, 2000. "What do flashlights, the British invasion, black cats, and seesaws have to do with computers? ...see how ingenuity and our very human compulsion to communicate have driven the technological innovations of the past two centuries."

The Pattern on the Stone: The Simple Ideas That Make Computers Work by Daniel Hillis; Basic Books, 1999. Explains the basic concepts of the computer in everyday language.

The Information: A History, a Theory, a Flood by James Gleick; Fourth Estate, 2012. A chronicle that shows how information has become "the modern era's defining quality - the blood, the fuel, the vital principle of our world."

Outnumbered: From Facebook and Google to fake news and filter-bubbles – the algorithms that control our lives by David Sumpter; Bloomsbury Sigma, 2018. An applied mathematician takes a look at what algorithms are doing with our data and how they are changing our lives.

AI: Its Nature and Future by Margaret A Boden; Oxford University Press, 2016. "…reviews the philosophical and technological challenges raised by Artificial Intelligence, considering whether programs could ever be really intelligent, creative or even conscious, and shows how the pursuit of Artificial Intelligence has helped us to appreciate how human and animal minds are possible."

Hello World: How to be Human in the Age of the Machine by Hannah Fry; Black Swan, 2019. "...a tour of the good, the bad and the downright ugly of the algorithms that surround us."

The Road to Conscious Machines: The Story of AI by Michael Wooldridge; Pelican, 2021. "...elucidates the discoveries of its greatest pioneers from Alan Turing to Demis Hassabis, and shows us what today's AI researchers actually think and do. AI appeals to fundamental questions about what it means to be human; so too do the failures and limitations of its past."

Hidden Figures: The American Dream and the Untold Story of the Black Women Who Helped Win the Space Race by Margot Lee Shetterly; HarperCollins, 2016. The story of NASA's African-American female 'Human Computers'.

Computing with Quantum Cats: From Alan Turing to Teleportation: From Colossus to Qubits by John Gribbin; MIT Press, 2015. Pioneering study of the science behind quantum computing and what the new quantum reality will mean for mankind.

Magazines, blogs, journals, videos, websites & other stuff

Isaac Computer Science - free online learning platform for A-level Computer Science

Computerphile videos

Computer Science Unplugged - a Computer Science curriculum for pre-university students developed in New Zealand.

CS4FN (Computer Science for Fun) is a magazine on computer science aimed at school students "Explore how computer science is also about people, solving puzzles, creativity, changing the future and, most of all, having fun."

Making sense of artificial intelligence This A-Z guide offers a series of simple, bite-sized explainers to help anyone understand what AI is, how it works and how it's changing the world around us.