

AI on the beach

The COVID-19 pandemic is not over and the future is uncertain, but there has lately been a semblance of what life was like before. As thoughts turn to the possibility of a summer holiday, we offer suggestions for books and podcasts on AI to refresh the mind.

During the pandemic, social media and AI technology have only grown in importance. An excellent book that takes a look at the rise of the companies behind these technologies is *Genius Makers* by Cade Metz¹. Metz, a *New York Times* journalist, interviewed key players in the development of modern machine learning and its deployment by tech companies. With an insider's sources and a journalist's knack for storytelling, he describes the people, ideas and history of "The Mavericks Who Brought AI to Google, Facebook, and the World" (subtitle). We recommend the book for readers who want to understand the main ideas behind the latest AI technologies, the personalities of prominent people, and important events in the field.

For a deeper dive into AI topics, and a more panoramic view of the field, the reader may consider the fourth edition of Stuart Russell and Peter Norvig's celebrated text, *Artificial Intelligence: A Modern Approach*². A warning: the hardback is a hefty 1,115 pages, perhaps useful for anchoring a beach tent; otherwise, the Kindle or electronic versions may be preferred. About 25% of the material in the latest edition is new, and the remaining 75% has been rewritten or presented in a new format. There is expanded coverage of areas such as machine learning, deep learning, robotics, natural language processing, causality, probabilistic programming, and the impact of AI on society. Several chapters include contributing writers such as Judea Pearl (Causal Networks), Ian Goodfellow (Deep Learning) and Anca Dragan (Robotics). The book includes historical notes, as well as online resources such as exercises and implementations of algorithms.

For a creative as well as informative take on machine learning, *You Look Like a Thing and I Love You* by Janelle Shane³ would be a good choice for a beach read. The writer explores, with hands-on experiments, the weird possibilities of generative AI systems, and provides an accessible introduction to machine learning but also a cautionary tale.

In books, the reader and author work together, one-to-one. Podcasts invite the listener or viewer to observe or listen to conversations. Good podcasts make



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the most of personality, dialogue and improvisation, and are led by a personable host who serves as an informed interviewer. The podcast phenomenon is part of the democratization of the Internet, in which anyone can have a platform. It can be hard to find quality material among the deluge of information, but good programmes exist, such as Sam Charrington's well-curated *This Week in Machine Learning & AI*; Paul Middlebrooks' *Brain Inspired*; and the *Lex Fridman Podcast*, formerly called the *Artificial Intelligence Podcast*. Of note, some researchers who were interviewees have started their own programmes, such as Pieter Abeel's *The Robot Brains Podcast*. An alternative podcast that takes a (very) critical look at how AI and big tech are ruling society and the economy, with a surprisingly light touch, is *This Machine Kills* hosted by Jathan Sadowski and Edward Ongweso Jr.

Some of the episodes from the past year or two that we found particularly interesting include the following. For big-picture ideas on how to think about AI, neuroscience and cognitive science, listen to Paul Cisek (University of Montreal) in two episodes: in [part 1](#), he emphasizes the importance of evolution in understanding the brain and cognition, especially the roles of the environment and actions; and in [part 2](#), he criticizes the 'new AI'. Alison Gopnik (University of California

at Berkeley) addresses 'child-inspired AI', that is, the role of studying how children learn in building AI systems, emphasizing imitation, abstract causal models, and active learning via exploration. Matthew Botvinick (DeepMind) [describes](#) the interrelations between neuroscience and psychology, including how much we understand about the brain, and how that knowledge might relate to the design of AI.

For another big-picture take on machine intelligence, [listen](#) to Melanie Mitchell (Sante Fe Institute) who thinks about the interactions between complexity and AI. Pamela McCorduck, author of *Machines Who Think* (first published in 1979; second edition in 2004⁴) [tells](#) fascinating stories about the early and middle decades of AI.

On the topic of robotics, Anca Dragan (University of California at Berkeley) [engages](#) in a lively discussion about human-robot interaction, including her favourite robot (and why), self-driving cars, and reward functions in robotics. Missy Cummings (Duke University) [describes](#) her experience as a US Air Force fighter pilot, asks whether the US military should use AI weapons, and advocates for robots to be built with human-centric safety controls. Ayanna Howard (Ohio State University) [discusses](#) socialization of robots and the attribution of genders to AI and robotic systems.

And a recent *This Machine Kills* episode offers an engaging conversation between Salomé Viljoen (NYU) and the hosts about data governance and how to make data collection work for socially beneficial uses.

These books and podcasts, most of which appeared during the pandemic, remind us of the importance of stories, ideas and people in our lives. We hope you enjoy our suggestions and have an opportunity for some refreshing reading and listening this summer, on the beach or at home. □

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References

1. Metz, C. *Genius Makers: The Mavericks Who Brought AI to Google, Facebook, and the World* (Dutton, 2021).
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3. Shane, J. *You Look Like a Thing and I Love You* (Wildfire, 2019).
4. McCorduck, P. *Machines Who Think* 2nd edn (Routledge, 2004).