



Adult Books

Brooks, Rodney Allen. ***Flesh and Machines: How Robots Will Change Us***. New York: Vintage books, 2002.

Flesh and Machines explores the startlingly reciprocal connection between humans and their technological brethren, and explains how this relationship is being redefined as humans develop increasingly complex machines. The impetus to build machines that exhibit lifelike behaviors stretches back centuries, but for the last fifteen years much of this work has been done in Rodney Brooks's laboratory at MIT. His goal is not simply to build machines that are like humans but to alter our perception of the potential capabilities of robots. Our current attitude toward intelligent robots, he asserts, is simply a reflection of our own view of ourselves.

Challoner, Jack. ***Artificial Intelligence***. New York: DK Pub., 2002.

Making science more accessible than ever before! The Essential Science series makes the difficult and fascinating world of cutting-edge science accessible to everyone with a stimulating mix of lively illustrations and jargon-free text. Important scientific theories are explained clearly in these authoritative guides that feature cross-references, glossaries, and thorough indexes.

Graham, Brad. ***Build Your Own All-Terrain Robot***. New York: McGraw-Hill, 2004.

Remotely operated robots are becoming increasingly popular because they allow the operators to explore areas that may not normally be easily accessible. The use of video-controlled technology has sparked a growing public interest not just in hobbyists, but also in the areas of research, space, archeology, deep-sea exploration, and even the military. Significant changes in the technology marketplace have made the creation of an all-terrain, video controlled robot accessible to even the amateur robotic hobbyist.

Hrynkiw, Dave. ***Junkbots, Bugbots, and Bots on Wheels: Building Simple Robots with BEAM Technology***. New York: McGraw-Hill/Osborne, 2002.

Get step-by-step instructions from the Junkbot masters for creating simple and fun self-guiding robots safely and easily using common and not-so-common objects from around the house--or within a quick shopping trip away. Using BEAM technology, ordinary tools, salvaged electronic bits, and the occasional dead toy, you'll be able to construct a solar-powered obstacle-avoiding device, engineer a mini-sumo-wrestling robot, build a motorized walking robot bug, and much more.

Malone, Robert. ***Ultimate Robot***. New York, NY: DK Publishing, 2004.

Ultimate Robot is both a visual feast of the robot in pop culture and a reference guide for collectors of toy, kit, and warrior robot memorabilia - the first definitive guide for all readers fascinated by these amazing mechanical wonders. Packed with over 500 color photographs of all types of robots, from classic tin toys and film androids to Battlebots and futuristic fantasy robots, *Ultimate Robot* covers the history of robotics, the innovators who made robots possible, a glossary of useful terms, and the robots of tomorrow.

Manseur, Rachid. ***Robot Modeling and Kinematics***. Boston, MA: Da Vinci Engineering Press, 2006.

Robot Modeling and Kinematics teaches the fundamental topics of robotics, using cutting-edge visualization software and computer tools to illustrate topics and provide a comprehensive process of teaching and learning. The book provides an introduction to robotics with an emphasis on the study of robotic arms, their mathematical description, and the equations describing their motion.

McComb, Gordon. ***Robot Builder's Sourcebook***. New York: McGraw-Hill, 2003.

A comprehensive listing (with address, phone numbers, web sites) of over 2500 suppliers and manufacturers of robot components, materials, tools, and much more. There are even sources for tracking down older and hard-to-find parts. Also listed are books, journals, magazines, professional societies, and Internet resources, including education sites, competition information, and web sites where hobbyists can find examples of program code.

Menzel, Peter. ***Robo Sapiens: Evolution of a New Species***. Cambridge, MA: MIT Press, 2000.

In *Robo Sapiens*, Peter Menzel and Faith D'Aluisio present the next generation of intelligent robots and their makers. Accompanying brilliant photographs of more than one hundred robots is an account of the little-known, yet vitally important scientific competition to build an autonomous robot.

Predko, Michael. ***123 Robotics Experiments for the Evil Genius***. NY: McGraw-Hill, 2004.

Text provides 123 experiments to bring out the genius in every basement hobbyist. Introduces readers to robotics, electronics, and programming; so you don't need to be a science whiz to get started. Shows how you can create simple robots and models using inexpensive materials and tools found around the house and workroom. Includes a printed circuit board.

Shoop, Robin. ***Robotics Curriculum Guide***. Pittsburgh, PA: Carnegie Mellon University's Robotics Academy, 2004.

This module allows the instructor to teach basic electronic control with some elements of programming logic. It allows for student explorations into mechanics. The lessons teach principles in mechanical advantage,

measurement, ratios, and proportions. This website is associated with the Robotics Academy, and it is to be used with the Robotics Educator CD-ROM.

Wood, Gaby. ***Edison's Eve: A Magical History of the Quest for Mechanical Life.*** New York, NY: A.A. Knopf, 2002.

Taking up themes long familiar from the realms of fairy tales and science fiction, Gaby Wood traces the hidden prehistory of a modern idea—the thinking, hoaxes, and inventions that presaged contemporary robotics and the current experiments with artificial intelligence.

Young Adult

Beyer, Mark. ***Robotics.*** New York, NY: Children's Press, 2002.

Science fiction becomes science fact in this intriguing series that explores the extraordinary scientific advances modern man is making - and their impact on society, economics and our future.

Brown, Jordan. ***Robo world: the story of robot designer Cynthia Breazeal.*** NY: Franklin Watts, 2005.

Cynthia Breazeal is a creature creator. Armed with electronic gadgets, software programs, and her endless imagination, she creates lifelike machines that can respond to the world around them. Cynthia is a roboticist, a scientist who designs, builds, and experiments with robots.

Bunting, Eve. ***My Robot.*** Orlando, FL: Harcourt, Inc., 2006.

In this title in the Green Light Reader series, an African American boy narrates a story about his personal robot, Cecil. Speaking in short sentences and basic vocabulary, he tells all the ways the robot participates in his life--by playing tag, helping the teacher, giving him a ride home from school, and, of course, cleaning his room.

Jones, David. ***Mighty Robots: Mechanical Marvels That Fascinate and Frighten.*** Buffalo, NY: Annick Press, 2005.

From the development of robotic technology to the history of robots in books and films, this informative offering surveys the field broadly but zeroes in with detailed accounts of many topics.

Sobey, Edwin J. C. ***How to Build Your Own Prize-Winning Robot.*** Berkeley Heights, NJ: Enslow Publishers, 2002.

Teaches the fundamentals of robotics, from motors to wheel alignment, and including the construction of a personal robot.

Staake, Bob. ***Hello, Robots.*** New York, NY: Penguin Group, 2004.

When four robots - Blink, Zinc, Blip, and Zip spend a day outside, disaster strikes in the form of a rainstorm and fried circuits. Blink bakes a birdhouse, Zinc repairs

an apple pie, Blip rakes the window, and Zip tries to shine the grass. But soon the intrepid robots solve their problems—by switching heads. Young robot fans will thrill to this simple tale, and the strong rhythm of the text makes it an ideal candidate for storytimes.

Media

Great Robot Race: The Darpa Grand Challenge [DVD]. 56 min; NOVA/WGBH, 2006.

Join NOVA for an exclusive backstage pass to the DARPA Grand Challenge -- a raucous race for robotic, driverless vehicles sponsored by the Pentagon, which awards a \$2 million purse to the winning team. Armed with artificial intelligence, laser-guided vision, GPS navigation, and 3-D mapping systems, the contenders are some of the world's most advanced robots. Yet even their formidable technology and mechanical prowess may not be enough to overcome the grueling 130-mile course through Nevada's desert terrain.

Microbots and the Phantom: An Innovative Lives Special with James McLurkin and Thomas Massie [VHS]. 20 min. National Museum of American History, 1996.

This video showcases a trip to the National Museum of American History, where kids can learn about micro-robots and how they were invented. Stressing that it is never too early to start exploring the world of invention, Thomas Massie and James McLurkin, two MIT graduates, talked about their careers to date and then invited students to join them in some hands on activities.

Robots [VHS]. 50 min. The History Channel, 1998.
(no summary available)

Robots: A Look into the Future [DVD]. 16 min. Cambridge Educational, 2005.

This DVD examines robots created for a wide range of purposes, from six-legged computerized lumberjacks that help protect forest habitat to molecular-sized automatons that might someday search out and destroy disease inside the human body.

Scientific American Frontiers: Robot Pals [DVD]. 27 min. PBS, 2005.

To be really useful, robots need to behave as a cooperative partners rather than mindless machines. We'll meet three robots including a future member of an astronaut team that are trying to better understand us.