

A LEGO Inventions Book

The Unofficial Guide to Lego Mindstorms Robots

Projects for Extending MINDSTORMS NXT with Open-source Electronics

An Introduction to the Art of Creating Integrated Media Experiences

Using Robots to Scaffold Learning Outcomes

Provides instructions for building seven robots, complete descriptions of each of them, and the theories behind their design.

With no previous experience required, BASIC ROBOTICS walks readers step by step through the fundamentals of the industrial robot system. It begins with an exploration of the fascinating technological history that led to the modern robot from Before the Common Era and ending with a glimpse of what the robots of tomorrow might become. From there the book explores safety, various parts of the robot, tooling, power transmission systems, the basics of programming, and much more. Engaging photos highlight various robotic systems and their parts, while stories of real-world events bring text concepts to life. This innovative First Edition incorporates many of the initiatives of STEM and is the culmination of the author's years of teaching robotics in various formats--from the traditional classroom to the industrial production floor with systems ranging from the LEGO Mindstorms NXT to the FANUC robot. Important Notice: Media content referenced within the product text may not be available in the ebook version.

Generic Tools, Specific Languages (GTSL) is an approach for developing tools and applications in a way that supports easier and more meaningful adaptation to specific domains. To achieve this goal, GTSL generalizes programming language traditionally not addressed by languages and IDEs. At its core, GTSL represents applications as documents/programs/models expressed with suitable languages. Application functionality is provided through an IDE that is aware of the language. The IDE provides editing support, and also directly integrates domain-specific analyses and execution services. Applications and their languages can be adapted to increasingly specific domains using language engineering; this includes developing extensions to existing languages or creating additional, tightly integrated languages. Language workbenches act as the foundation on which such applications are built. mbeddr is an extensible set of integrated languages for embedded software using the Generic Tools, Specific Languages approach.

Absolutely no experience needed! Build your drone, step-by-step, with this full-color, hands-on guide! You've heard about drones. You've seen drones. Now, build your own—it's a lot easier than you think! Drones are the newest frontier for the maker community, and you don't need to be a technical expert to build one. John Baichtal, the #1 author of hardware hacking books for beginners, will teach you all the skills you need. First, Baichtal shows you the amazing drones others have built through several complete projects: quadcopters, UAVs, ROVs, and more. Not ready to start from scratch? No problem: Baichtal helps you choose from today's best new kits. Hundreds of full-color step-by-step photos teach you every step, and ready for more advanced concepts, Baichtal explains them in plain English. Discover what drones are and why they're so exciting Explore today's most imaginative projects, from 3D-printed mini quadcopters to floating robot armies Compare Parallax ELEV-8, DJI Phantom 2 Vision+, OpenROV, Actobotics Nomad, Brooklyn Aerodrome Flack, and more Create your own practical Drone Builder's Workbench Build complete rocket, blimp, waterborne, and automotive drones Construct both autonomous and radio-controlled drones Choose and assemble your chassis (airframe), motor, props, flight control, power system, accessories, and software Integrate Arduino to make radio-controlled drones operate autonomously Teach about RFID tags Learn all the basic electronics and programming you'll need

Provides step-by-step instructions for building a variety of LEGO Mindstorms NXT and Arduino devices.

Extreme NXT

Engineering Journal

The LEGO MINDSTORMS EV3 Idea Book

The Ideal Order

Smart Learning with Educational Robotics

Building Your Own Drones

The Unfolding Model

Discover the many features of the LEGO® MINDSTORMS® NXT 2.0 set. The LEGO MINDSTORMS NXT 2.0 Discovery Book is the complete, illustrated, beginner's guide to MINDSTORMS that you've been looking for. The crystal clear instructions in the Discovery Book will show you how to harness the capabilities of the NXT 2.0 set to build and program your own robots. Author and robotics instructor Laurens Valk walks you through the set, showing you how to use its various pieces, and how to use the NXT software to program robots. Interactive tutorials make it easy for you to reach an advanced level of programming as you learn to build robots that move, monitor sensors, and use advanced programming techniques like data wires and variables. You'll build eight increasingly sophisticated robots like the Strider (a six-legged walking creature), the CCC (a climbing vehicle), the Hybrid Brick Sorter (a robot that sorts by color and size), and the Snatcher (an autonomous robotic arm). Numerous building and programming challenges throughout encourage you to think creatively and to apply what you've learned as you develop the skills essential to creating your own robots. Requirements: One LEGO MINDSTORMS NXT 2.0 set (#8547) Features: –A complete introduction to LEGO MINDSTORMS NXT 2.0 –Building and programming instructions for eight innovative robots –50 sample programs and 72 programming challenges (ranging from easy to hard) encourage you to explore newly learned programming techniques –15 building challenges expand on the robot designs and help you develop ideas for new robots Who is this book for?This is a perfect introduction for those new to building and programming with the LEGO MINDSTORMS NXT 2.0 set. The book also includes intriguing robot designs and useful programming tips for more seasoned MINDSTORMS builders.

LEGO MINDSTORMS has changed the way we think about robotics by making it possible for anyone to build real, working robots. The latest MINDSTORMS set, EV3, is more powerful than ever, and The LEGO MINDSTORMS EV3 Discovery Book is the complete, beginner-friendly guide you need to get started. Begin with the basics as you build and program a simple robot to experiment with motors, sensors, and EV3 programming. Then you'll move on to a series of increasingly sophisticated robots that will show you how to work with advanced programming techniques like data wires, variables, and custom-made programming blocks. You'll also learn essential building techniques like how to use beams, gears, and connector blocks effectively in your own designs. Master the possibilities of the EV3 set as you build and program: –The EXPLOR3R, a wheeled vehicle that uses sensors to navigate around a room and follow lines –The FORMULA EV3 RACE CAR, a streamlined remote-controlled race car –ANTY, a six-legged walking creature that adapts its behavior to its surroundings –SK3TCHBOT, a robot that lets you play games on the EV3 screen –The SNATCH3R, a robotic arm that can autonomously find, grab, lift, and move the infrared beacon –LAVA R3X, a humanoid robot that walks and talks More than 150 building and programming challenges throughout encourage you to think creatively and apply what you've learned to invent your own robots. With The LEGO MINDSTORMS EV3 Discovery Book as your guide, you'll be building your own out-of-this-world creations in no time! Requirements: One LEGO MINDSTORMS EV3 set (LEGO SET #31313)

Printing in Plastic: Build Your Own 3D Printer is your gateway into the exciting world of personal fabrication. The “printer” that you'll build from this book is a personal fabricator capable of creating small parts and other objects from drops of molten plastic. Design a part using a modeling tool such as Google SketchUp. Then, watch while the fabricator head sweeps back and forth and upwards, depositing plastic in all the right places. You can build anything from a replacement tab to hold a bookshelf in place, to a small art project, to a bashguard for your bicycle. If you can conceive it and design it, you can build it, and you'll have fun doing it! Printing in Plastic is aimed at creative people comfortable using power tools such as a table saw, circular saw, and drill press. Authors James Kelly and Patrick Hood-Daniel lead you through building a personal fabrication machine based upon a set of blueprints downloaded from their website. Example projects get you started in designing and fabricating your own parts. Bring your handyman skills, and apply patience during the build process. You too can be the proud owner of a personal fabricator—a three-dimensional printer. Leads you through building a personal fabrication machine capable of creating small parts and objects from plastic Provides example projects to get you started on the road to designing and fabricating your own parts Provides an excellent parent/child, or small group project

With this kit, kids can create incredible spacecraft from the world of "Star Wars," or build their own unique warp-speed ships. Dynamic full-color photos combine with clearly labeled instructions, trivia, and a compelling story to make the Brickmaster kits perfect for all LEGO fans. Includes more than 240 bricks to make eight models and two figures. This book teaches anyone interested how to build LEGO MINDSTORMS robots. The author starts with an easy robot and gets to more detail in the succeeding six robots built in the book. The robots he presents are award winning robots, so he is giving away his secrets. The author also teaches how to program the robots. If you are not a programmer, then you can use the code provided. He tells you what equipment you need and how to get it inexpensively. So everything is discussed that you will need to create these robots or modify his designs to create your own. You truly experience the technology in action as you create your robots.

Building and Programming Advanced Robots

Jin Sato's Lego Mindstorms

Building Robots With Lego Mindstorms

Extending the LEGO MINDSTORMS NXT to the Next Level, Second Edition

The LEGO MINDSTORMS Robot Inventor Activity Book

LEGO MINDSTORMS NXT: Mars Base Command

181 Simple Machines and Clever Contraptions

From tanks to tow trucks, all the models showcased in this book use LEGO Technic gears, pulleys, pneumatics, and electric motors to really move. You'll find some of the world's best fan-created LEGO supercars, construction equipment, monster trucks, watercraft, and more, along with design notes and breakaway views of the truly incredible mechanisms inside. Look closely, and you'll learn how expert builders use differentials, suspensions, linkages, and complex gearing systems in their creations. Whether you're a beginning builder or a longtime LEGO fan, Incredible LEGO Technic offers a unique look at the artistry and engineering that can make your LEGO creations come alive.

Building robots is a snap with LEGO Technic Robotics! This book shows you how to use LEGO bricks and Power Functions components such as motors and remote controls to create all kinds of robots. Best of all, you don't have to learn any programming. You just need your imagination and the expert building principles that you'll find inside LEGO Technic Robotics. Author Mark Rollins teaches you the hows and whys of Technic project design. You're not just snapping pieces here and there; with LEGO Technic Robotics you're actively learning the fundamentals of good design so you can go on to create truly spectacular LEGO robot creations. From robots that run on wheels, walk on two or four legs, or move and function in ways that only you can dream up, this book will help you create your own robot army. Turn to LEGO Technic Robotics and build with real power! After you've mastered the techniques in this book, if you're looking to build more creations, check out Practical LEGO Technics, also written by Mark Rollins, and discover how to build vehicles that can roll, run, and more. Please note: the print version of this title is black & white; the eBook is full color. You can download the color diagrams in the book from <http://www.apress.com/9781430249801>

This book constitutes the refereed proceedings of the 4th International Conference on Simulation, Modeling, and Programming for Autonomous Robots, SIMPAR 2014, held in Bergamo, Italy, in October 2014. The 49 revised full papers presented were carefully reviewed and selected from 62 submissions. The papers are organized in topical sections on simulation, modeling, programming, architectures, methods and tools, and systems and applications.

Vol. 7, no.7, July 1924, contains papers prepared by Canadian engineers for the first World power conference, July, 1924.

Beginning LEGO MINDSTORMS EV3 shows you how to create new fun and fantastic creations with the new EV3 programmable brick along with other new EV3 pieces and features. You'll learn the language of the EV3 brick, and then go on to create a variety of programmable vehicles using MINDSTORMS and Technic parts. You'll then move into creating robot parts, including robotic arms. You'll even learn how to make different types of MINDSTORMS walkers. Finally, you'll learn how to incorporate light and sound into your amazing EV3 creations. Whether you're a MINDSTORMS enthusiast wanting to know more about EV3, a robotics competitor, or just a LEGO fan who wants to learn all about what EV3 can do, Beginning LEGO MINDSTORMS EV3 will give you the knowledge you need. Note: the printed book is in black and white. The Kindle and eBook versions are in color (black and white on black and white Kindles).

A Beginner's Guide to Building and Programming Robots

Creating Cool MINDSTORMS NXT Robots

LEGO Mindstorm Masterpieces

Simulation, Modeling, and Programming for Autonomous Robots

A Dynamical Systems Approach

Elements of Robotics

Research Reports and Essays, 1985-1990

Dr. Rob Park's life is out of order. His estranged wife is leaving him, the relationship to his daughters is strained and his academic career is at a dead end. He escapes into the cult of LEGO and the study of classification systems. By sorting his collection of LEGO bricks he reconnects to his daughters and he maintains his sobriety while maneuvering in the bizarre world of academia. Prof. Dr. Smith and his newly found Adult Fans Of LEGO help him to find a new structure for himself, his brick collection and his family.

LEGO Crazy Action Contraptions

Star Wars

Make: Lego and Arduino Projects

Build, Program, and Experiment with Five Wicked Cool Robots

Practical LEGO Technics

4th International Conference, SIMPAR 2014, Bergamo, Italy, October 20-23, 2014. Proceedings