Robot Programming: A Guide To Controlling Autonomous Robots

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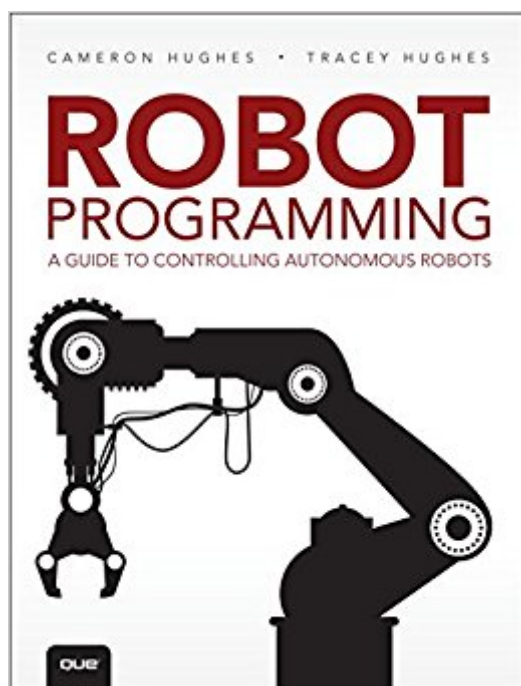
ROBOT PROGRAMMING

A GUIDE TO CONTROLLING AUTONOMOUS ROBOTS

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Synopsis

Â Start programming robots NOW! Â   Learn hands-on, through easy examples, visuals, and code Â   This is a unique introduction to programming robots to execute tasks autonomously. Drawing on years of experience in artificial intelligence and robot programming, Cameron and Tracey Hughes introduce the reader to basic concepts of programming robots to execute tasks without the use of remote controls. Â   Robot Programming: A Guide to Controlling Autonomous Robots takes the reader on an adventure through the eyes of Midamba, a lad who has been stranded on a desert island and must find a way to program robots to help him escape. In this guide, you are presented with practical approaches and techniques to program robot sensors, motors, and translate your ideas into tasks a robot can execute autonomously. These techniques can be used on todayâ ™s leading robot microcontrollers (ARM9 and ARM7) and robot platforms (including the wildly popular low-cost Arduino platforms, LEGOÂ® Mindstorms EV3, NXT, and Wowee RS Media Robot) for your hardware/Maker/DIY projects. Along the way the reader will learn how to: Â   Program robot sensors and motors   Program a robot arm to perform a task   Describe the robotâ ™s tasks and environments in a way that a robot can process using robot S.T.O.R.I.E.S.   Develop a R.S.V.P. (Robot Scenario Visual Planning) used for designing the robotâ ™s tasks in an environment   Program a robot to deal with the â œunexpectedâ • using robot S.P.A.C.E.S.   Program robots safely using S.A.R.A.A. (Safe Autonomous Robot Application Architecture) Approach   Program robots using Arduino C/C++ and Java languages   Use robot programming techniques with LEGOÂ® Mindstorms EV3, Arduino, and other ARM7 and ARM9-based robots.

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