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	Nota di contenuto	Cover; Copyright; Credits; About the Author; About the Reviewers; www.PacktPub.com; Table of Contents; Preface; Chapter 1: Preparing the BeagleBone Black; Unpacking and powering up; Installing an operating system; Connecting to an external computer; Installing a Windows manager; Installing additional core software packages; Installing a vision library; Installing sound capability; Creating and recording sound; Making your BeagleBone Black speak; Installing speech recognition; Improving speech recognition accuracy; Responding to voice commands
		Adding additional hardware and software for a fully functional core systemSummary; Chapter 2: Building a Basic Tracked Vehicle; Choosing the tracked platform; Connecting a motor controller to control the speed of your tracked platform; Choosing the battery; Connecting the motor controller; Connecting the motor controller system; Controlling your mobile platform programmatically using the BeagleBone Black and Python; Adding program arguments to control your platform; Accessing motor control via voice commands; Summary; Chapter 3: Adding Sensors to your Tracked Vehicle; Basics of sensors
		Adding distance sensorsSonar sensors; Adding an array of inexpensive sonar sensors to the project; IR sensors; Dynamic path planning for your robot; Basic path planning; Avoiding obstacles; Summary; Chapter

4: Vision and Image Processing; Connecting a webcam to the BeagleBone Black; Using OpenCV; Finding colored objects in your vision system; Following colored objects with your vision system; Finding movement in your vision system; Following movement with your robot; Summary; Chapter 5: Building a Robot that Can Walk; Building robots that can walk; Working of servomotors

Building the quadruped platformUsing a servo controller to control the servos; Communicating with the servo controller via a PC; Connecting the servo controller to the BeagleBone Black; Creating a program on Linux to control your quadruped; Issuing voice commands to your quadruped; Summary; Chapter 6: A Robot that Can Sail; The BeagleBone Black and robots that can sail; Building the sailboat platform; Controlling servos with the BeagleBone Black; Controlling the servos on the sailboat from a program; Remote control of the sailboat; A ZigBee tutorial; Summary

Chapter 7: Using GPS for NavigationBeginning with a GPS tutorial; Connecting GPS to the BeagleBone Black; Communicating with the GPS; Parsing the GPS information; Calculating distance and bearing; Summary; Chapter 8: Measuring Wind Speed - Integrating Analog Sensors; Connecting an analog wind speed sensor; Getting sensor data from the wind speed sensor; Some basics of sailing; Summary; Chapter 9: An Underwater Remote Operated Vehicle; Building the hardware for the ROV; Controlling brushless DC motors using the BeagleBone Black; Program to control DC motors using the BeagleBone Black

Connecting to the BeagleBone Black via a long LAN

| Sommario/riassunto | If you want a simple guide to building complex robots, then this book is for you. You'll need some programming knowledge and experience working with mechanical systems. |