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	Titolo	Advanced Robotic Vehicles Programming : An Ardupilot and Pixhawk Approach / / by Julio Alberto Mendoza-Mendoza, Victor Javier Gonzalez-Villela, Gabriel Sepulveda-Cervantes, Mauricio Mendez-Martinez, Humberto Sossa-Azuela
	Pubbl/distr/stampa	Berkeley, CA : , : Apress : , : Imprint : Apress, , 2020
	ISBN	1-5231-5052-1 1-4842-5531-3
	Edizione	[1st ed. 2020.]
	Descrizione fisica	1 online resource (XXVIII, 439 p. 219 illus., 138 illus. in color.)
	Collana	Technology in action
	Disciplina	629.892
	Soggetti	Computer input-output equipment Hardware and Maker
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Nota di bibliografia	Includes bibliographical references.
	Nota di contenuto	Part 1: Introduction -- Chapter 1: Hardware and Software Description -- Chapter 2: Ardupilot Working Environment -- Chapter 3: Recap and Definitions -- Part 2: Sequential Mode -- Chapter 4: Basic Input and Output Operations -- Chapter 5: Advanced Operations: Serial Communications, Data Storage, Motion Units and Basis of Time Management -- Chapter 6: Application to Quadcopter Drone Control with a Smooth Flight Mode: -- Part 3: Real Time Mode -- Chapter 7: Real Time Working Environment -- Chapter 8: Compendium of the Previous Chapters in Real Time Mode with Application Code -- Appendices.
	Sommario/riassunto	Learn how to program robotic vehicles with ardupilot libraries and pixhawk autopilot, both of which are open source technologies with a global scope. This book is focused on quadcopters but the knowledge is easily extendable to three-dimensional vehicles such as drones, submarines, and rovers. Pixhawk and the ardupilot libraries have grown dramatically in popularity due to the fact that the hardware and software offer a real-time task scheduler, huge data processing capabilities, interconnectivity, low power consumption, and a global developer support. This book shows you how take your robotic programming skills to the next level. From hardware to software,

Advanced Robotic Vehicles Programming links theory with practice in the development of unmanned vehicles. By the end of this book, you'll learn the pixhawk software and ardupilot libraries to develop your own autonomous vehicles. You will: Model and implement elementary controls in any unmanned vehicle Select hardware and software components during the design process of an unmanned vehicle Use other compatible hardware and software development packages Understand popular scientific and technical nomenclature in the field Identify relevant complexities and processes for the operation of an unmanned vehicle.