

1. Record Nr.	UNINA9910483694403321
Autore	MahmoudZadeh Somaiyeh
Titolo	Autonomy and Unmanned Vehicles : Augmented Reactive Mission and Motion Planning Architecture / / by Somaiyeh MahmoudZadeh, David M.W. Powers, Reza Bairam Zadeh
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2019
ISBN	981-13-2245-7
Descrizione fisica	1 online resource (116 pages)
Collana	Cognitive Science and Technology, , 2195-3988
Disciplina	623.74
Soggetti	Engineering Mathematical optimization Artificial intelligence Operations research Computer vision Computational Intelligence Optimization Artificial Intelligence Operations Research/Decision Theory Control, Robotics, Mechatronics Computer Imaging, Vision, Pattern Recognition and Graphics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction to Autonomy and Applications -- State-of-the-art in UVs' Autonomous Mission Planning and Task Managing Approach -- State-of-the-art in UVs' Autonomous Motion Planning -- Advancing Autonomy by Developing a Mission Planning Architecture -- Mission Planning in Terms of Task-Time Management and Routing -- AUV Online Real-Time Motion Planning -- Augmented Reactive Mission Planning Architecture.
Sommario/riassunto	This book addresses higher–lower level decision autonomy for autonomous vehicles, and discusses the addition of a novel architecture to cover both levels. The proposed framework's performance and stability are subsequently investigated by employing

different meta-heuristic algorithms. The performance of the proposed architecture is shown to be largely independent of the algorithms employed; the use of diverse algorithms (subjected to the real-time performance of the algorithm) does not negatively affect the system's real-time performance. By analyzing the simulation results, the book demonstrates that the proposed model provides perfect mission timing and task management, while also guaranteeing secure deployment. Although mainly intended as a research work, the book's review chapters and the new approaches developed here are also suitable for use in courses for advanced undergraduate or graduate students.
