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Altri autori (Persone)	MatejicekLubos
Disciplina	363.700285
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Lingua di pubblicazione	Inglese
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Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	<p>""ENVIRONMENTAL MODELINGWITH GIS""; ""ENVIRONMENTAL MODELINGWITH GIS""; ""CONTENTS""; ""PREFACE""; ""SPATIO-TEMPORAL MODELING OF RADIONUCLIDEDEPOSITION""; ""ABSTRACT""; ""1. INTRODUCTION""; ""2. DISTRIBUTION OF RADIONUCLIDES IN THE IRISH SEA""; ""3. MODELING OF RADIONUCLIDE DEPOSITION""; ""4. SPATIO-TEMPORAL MODELING""; ""5. SPATIO-TEMPORAL MODELING WITH GIS""; ""6. CONCLUSION""; ""ACKNOWLEDGMENT""; ""REFERENCES""; ""DYNAMIC MODELING OF SURFACE WATERPOLLUTION CAUSED BY THE INDUSTRIALPOLLUTANT RELEASE""; ""ABSTRACT""; ""1. INTRODUCTION""; ""2. DYNAMIC MODELING IN THE GIS ENVIRONMENT"" ""3. MODELING OF THE POLLUTANT TRANSPORT""""4. SIMULATION OF THE DYNAMIC MODEL IN GIS""; ""5. DATA PROCESSING AND EXPLORATORY ANALYSIS""; ""6. SPATIO-TEMPORAL SIMULATION WITH GIS""; ""7. CONCLUSION""; ""ACKNOWLEDGMENT""; ""REFERENCES""; ""MODELING OF WATER POLLUTION IN RIVER BASINSWITH GIS""; ""ABSTRACT""; ""1. INTRODUCTION""; ""2. METHODS""; ""2.1 INTEGRATION STRATEGIES OF DYNAMIC MODELING AND GIS""; ""2.2 INTEGRATION OF SPATIAL DATA FROM AERIAL AND SATELLITEIMAGES""; ""2.3 INTEGRATION OF SPATIAL DATA FROM GPS""; ""2.4 INTEGRATION OF 3D SPATIAL DATA"" ""2.5 INTEGRATION OF ALL THE SPATIAL COMPONENTS IN THEFRAMEWORK OF GIS""""3. A CASE STUDY OF BASIN IN THE NEIGHBORHOOD OF PRAHAFOCUSED ON NITRATES""; ""3.1 MODEL</p>

DESCRIPTION OF WATER POLLUTION"; "3.2 SPECIFICATION OF INPUT DATA"; "3.3 DESCRIPTION OF THE DYNAMIC MODEL"; "3.4 INTEGRATION OF THE DYNAMIC MODEL WITH GIS"
"3.5 SPREADSHEET TOOLS AND GIS"Figure 13. Calculation of the dynamic model in the environment of a spreadsheet and data connectionamong the spreadsheet, the GIS or the external relational spatial database.Compartment models described by ordinary differential equations can be solved withmacros, which implement algorithms for numerical calculation (Eulcr, Runge-Kutta). In spiteof a lower efficiency of calculation, a wide use of the spreadsheet programs, built-in""3.6 ARCGIS DEVELOPMENTS TOOLS"; "3.7 INDIVIDUAL PROGRAMS DEVELOPED WITH GIS PROGRAMMINGLIBRARIES"; "4. CONCLUSIONS"
"ACKNOWLEDGMENTS""REFERENCES"; "SPATIO-TEMPORAL MODELINGOF THE DUST EMISSIONS FROMAN OPENCAST COAL MINING AREA"; "ABSTRACT"; "1. INTRODUCTION"; "2. EMISSION SOURCES"; "3. REMOTE SENSING, GPS AND GIS"; "4. DISPERSION MODELING IN THE FRAMEWORK OF GIS"; "5. VISUALIZATION OF SPATIO-TEMPORAL DATA"; "6. A CASE STUDY OF THE SELECTED OPENCAST MINING AREA"; "6.1. Mapping of the Dust Emission Sources"; "6.2. Sharing Data between Dispersion Modeling Tools and GIS"; "6.3. Visualization of Spatio Temporal Data in GIS"; "7. CONCLUSION"; "ACKNOWLEDGMENT"; "REFERENCES"
"SPATIAL MODELING AND OPTIMIZATION OFMUNICIPAL SOLID WASTE COLLECTION INURBAN REGIONS"

2. Record Nr.	UNINA9910817699203321
Autore	Konig Lukas
Titolo	Complex behavior in evolutionary robotics // Lukas Konig
Pubbl/distr/stampa	Boston : , : De Gruyter, , [2015] ©2015
ISBN	1-5231-0453-8 3-11-040855-4 3-11-040918-6
Descrizione fisica	1 online resource (262 p.)
Disciplina	629.8/92
Soggetti	Evolutionary robotics
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Nota di contenuto	Front matter -- Acknowledgements -- Contents -- List of Figures -- List of Tables -- List of Notations -- 1. Introduction -- 2. Robotics, Evolution and Simulation -- 3. The Easy Agent Simulation -- 4. Evolution Using Finite State Machines -- 5. Evolution and the Genotype-Phenotype Mapping -- 6. Data Driven Success Prediction of Evolution in Complex Environments -- 7. Conclusion -- References -- Index
Sommario/riassunto	<p>Es werden vier neue Lösungsansätze für Probleme aus dem Bereich Evolutionäre Robotik bzw. Agenten-Simulation wissenschaftlich untersucht. Von besonderem Interesse ist eine neuartige Methode zur Imitierung der natürlichen Evolution in ihrer Fähigkeit, die eigenen Mutations- und Rekombinationsoperationen während der Evolution von Robotern anzupassen.</p> <p>Today, autonomous robots are used in a rather limited range of applications such as exploration of inaccessible locations, cleaning floors, mowing lawns etc. However, ongoing hardware improvements (and human fantasy) steadily reveal new robotic applications of significantly higher sophistication. For such applications, the crucial bottleneck in the engineering process tends to shift from physical boundaries to controller generation. As an attempt to automatize this process, Evolutionary Robotics has successfully been used to generate</p>

robotic controllers of various types. However, a major challenge of the field remains the evolution of truly complex behavior. Furthermore, automatically created controllers often lack analyzability which makes them useless for safety-critical applications. In this book, a simple controller model based on Finite State Machines is proposed which allows a straightforward analysis of evolved behaviors. To increase the model's evolvability, a procedure is introduced which, by adapting the genotype-phenotype mapping at runtime, efficiently traverses both the behavioral search space as well as (recursively) the search space of genotype-phenotype mappings. Furthermore, a data-driven mathematical framework is proposed which can be used to calculate the expected success of evolution in complex environments.
