Artificial Intelligence Methods In The Environmental Sciences

Preface.- Part I: Introduction To AI For Environmental Science. Overview of Using AI in Environmental Science. On traditional statistics and AI. On performance assessment. Decision Trees. Introduction to Genetic Algorithms. Introduction to Fuzzy Logic Algorithms. Missing Data Imputation through Machine Learning Algorithms.- Part II: Applications Of AI In Environmental Science. Nonlinear principal component analysis. Forward and Inverse Problems in Geophysical Satellite Remote Sensing: Retrieving Geophysical Parameters from Satellite Measurements and Direct Assimilation of Satellite Measurements. Neural Network Emulation of a Satellite Retrieval Algorithm. Improving Computational Efficiency of Numerical Models. Developing NN Emulations for Model Physics Parameterizations in Climate and Weather Prediction Models. Neural network modeling in climate change studies. Neural networks for characterization and forecasting in the boundary layer via radon data. Addressing Air Quality Problems with Genetic Algorithms. Reinforcement Learning for Optimal Control. Image processing techniques. Applications of Fuzzy Logic. Applications of Genetic Algorithms. Machine Learning Applications in Habitat Suitability Modeling.- Glossary. Index. EAN/ISBN : 9781402091193 Publisher(s): Springer Netherlands Discussed keywords: Knstliche Intelligenz, Umweltwissenschaften Format: ePub/PDF Author(s): Haupt, Sue E. - Pasini, Antonello - Marzban, Caren

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