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| Autore | Kramer Oliver |
| Titolo | Machine Learning for Evolution Strategies / / by Oliver Kramer |
| Pubbl/distr/stampa | Cham : , : Springer International Publishing : , : Imprint : Springer, , 2016 |
| ISBN | 3-319-33383-6 |
| Edizione | [1st ed. 2016.] |
| Descrizione fisica | 1 online resource (IX, 124 p. 38 illus. in color.) |
| Collana | Studies in Big Data, , 2197-6511 ; ; 20 |
| Disciplina | 006.31 |
| Soggetti | Computational intelligence<br>Computer simulation<br>Data mining<br>System theory<br>Artificial intelligence<br>Computational Intelligence<br>Computer Modelling<br>Data Mining and Knowledge Discovery<br>Complex Systems<br>Artificial Intelligence |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di bibliografia | Includes bibliographical references at the end of each chapters and index. |
| Nota di contenuto | Part I Evolution Strategies -- Part II Machine Learning -- Part III Supervised Learning. |
| Sommario/riassunto | This book introduces numerous algorithmic hybridizations between both worlds that show how machine learning can improve and support evolution strategies. The set of methods comprises covariance matrix estimation, meta-modeling of fitness and constraint functions, dimensionality reduction for search and visualization of high-dimensional optimization processes, and clustering-based niching. After giving an introduction to evolution strategies and machine learning, the book builds the bridge between both worlds with an algorithmic and experimental perspective. Experiments mostly employ a (1+1)-ES and are implemented in Python using the machine learning library scikit-learn. The examples are conducted on typical benchmark |

problems illustrating algorithmic concepts and their experimental behavior. The book closes with a discussion of related lines of research.