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Autore	Zhang Wengang
Titolo	MARS Applications in Geotechnical Engineering Systems : Multi-Dimension with Big Data / / by Wengang Zhang
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Descrizione fisica	1 online resource (XXI, 240 p. 99 illus., 64 illus. in color.)
Disciplina	624.15
Soggetti	Engineering geology Engineering—Geology Foundations Hydraulics Geotechnical engineering Big data Computer input-output equipment Geoengineering, Foundations, Hydraulics Geotechnical Engineering & Applied Earth Sciences Big Data Big Data/Analytics Input/Output and Data Communications
Lingua di pubblicazione	Inglese
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Nota di contenuto	Introduction -- MARS methodology -- Simple MARS modeling examples -- MARS use in prediction of collapse potential for compacted soils -- MARS use in prediction of diaphragm wall deflections in soft clays -- MARS use in HP-pile drivability assessment -- MARS use in assessment of soil liquefaction -- MARS use in evaluating entry-type excavation stability -- Summary and conclusions.
Sommario/riassunto	This book presents the application of a comparatively simple nonparametric regression algorithm, known as the multivariate adaptive regression splines (MARS) surrogate model, which can be used to approximate the relationship between the inputs and outputs, and express that relationship mathematically. The book first describes the

MARS algorithm, then highlights a number of geotechnical applications with multivariate big data sets to explore the approach's generalization capabilities and accuracy. As such, it offers a valuable resource for all geotechnical researchers, engineers, and general readers interested in big data analysis. .
