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Autore	Malley James D.
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Descrizione fisica	1 online resource (xii, 285 pages) : digital, PDF file(s)
Collana	Practical guides to biostatistics and epidemiology
Disciplina	614.285
Soggetti	Medical statistics - Data processing Biometry - Data processing
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	pt. 1. Introduction -- pt. 2. A machine toolkit -- pt. 3. Analysis fundamentals -- pt. 4. Machine strategies.
Sommario/riassunto	This book is for anyone who has biomedical data and needs to identify variables that predict an outcome, for two-group outcomes such as tumor/not-tumor, survival/death, or response from treatment. Statistical learning machines are ideally suited to these types of prediction problems, especially if the variables being studied may not meet the assumptions of traditional techniques. Learning machines come from the world of probability and computer science but are not yet widely used in biomedical research. This introduction brings learning machine techniques to the biomedical world in an accessible way, explaining the underlying principles in nontechnical language and

using extensive examples and figures. The authors connect these new methods to familiar techniques by showing how to use the learning machine models to generate smaller, more easily interpretable traditional models. Coverage includes single decision trees, multiple-tree techniques such as Random Forests™, neural nets, support vector machines, nearest neighbors and boosting.
