

- | | |
|-------------------------|---|
| 1. Record Nr. | UNICAMPANIAVAN00283794 |
| Autore | Wang, Wenmin |
| Titolo | Principles of Machine Learning : The Three Perspectives / Wenmin Wang |
| Pubbl/distr/stampa | Singapore, : Springer, 2024 |
| ISBN | 978-98-19-75332-1 |
| Descrizione fisica | xxxv, 527 p. : ill. ; 24 cm |
| Soggetti | 68-XX - Computer science [MSC 2020]
68Txx - Artificial intelligence [MSC 2020] |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| 2. Record Nr. | UNINA9910220053303321 |
| Autore | J. P. Ginsberg |
| Titolo | Dysregulation of Autonomic Cardiac Control by Traumatic Stress and Anxiety |
| Pubbl/distr/stampa | Frontiers Media SA, 2016 |
| Descrizione fisica | 1 online resource (118 p.) |
| Collana | Frontiers Research Topics |
| Soggetti | Psychology |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Sommario/riassunto | Current understanding of the interplay between sympathetic and parasympathetic influences on cardiac response to environmental stimuli and subsequent response selection (e.g. maintenance of resting homeostasis, mobilization of defensive response, task performance, tonic immobilization, and/or affiliation) will be explored. Reference will |

be made to how these processes conjoin with proposed polyvagal theory. Cardiac adjustments to environmental stimuli affect the internal physiological state of the organism as well as the quality of information processing that the individual can perform during the stimulus appraisal stage of the orienting response. Bradycardia is adaptive in early stages of orientation to novel or potential threat, while greater HRV power serves to facilitate self-regulation, stimulus information processing and appraisal, and appropriate response selection. This issue is devoted to current research findings on how normal patterns of cardiac autonomic regulation of HRV are disrupted in PTSD, impairing sustained attention to the environment and increasing the rate of inappropriate responding to stimuli. Origins of our current state of understanding in the 'intake-rejection' hypothesis will be considered, and how the intake-rejection hypothesis has morphed into present-day Optimal Performance practice. Additionally, empirical data where available will be presented on how dysregulation of the normal pattern of cardiac autonomic regulation by PTSD impairs sustained attention to the environment, and increases the rate of inappropriate responding to stimuli through disinhibition, poor impulse control, emotional withdrawal, over-arousal, and attentional bias. Current research findings are sought that address in controlled, experimental and clinical trials the restorative effects of HRV biofeedback on HRV power, and how increases in HRV power relate to improved attention / immediate memory and self-regulation of affect using outcome measures of cognition, symptoms of PTSD and depression, stress perception, and level of adaptive function.

3. Record Nr.	UNINA9910410040003321
Autore	Aggarwal Charu C.
Titolo	Linear Algebra and Optimization for Machine Learning : A Textbook // by Charu C. Aggarwal
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-40344-0
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (507 pages) : illustrations
Disciplina	512.5
Soggetti	Machine learning Matrix theory Algebra Computers Machine Learning Linear and Multilinear Algebras, Matrix Theory Information Systems and Communication Service
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Preface -- 1 Linear Algebra and Optimization: An Introduction -- 2 Linear Transformations and Linear Systems -- 3 Eigenvectors and Diagonalizable Matrices -- 4 Optimization Basics: A Machine Learning View -- 5 Advanced Optimization Solutions -- 6 Constrained Optimization and Duality -- 7 Singular Value Decomposition -- 8 Matrix Factorization -- 9 The Linear Algebra of Similarity -- 10 The Linear Algebra of Graphs -- 11 Optimization in Computational Graphs -- Index.
Sommario/riassunto	This textbook introduces linear algebra and optimization in the context of machine learning. Examples and exercises are provided throughout the book. A solution manual for the exercises at the end of each chapter is available to teaching instructors. This textbook targets graduate level students and professors in computer science, mathematics and data science. Advanced undergraduate students can also use this textbook. The chapters for this textbook are organized as follows: 1. Linear algebra and its applications: The chapters focus on

the basics of linear algebra together with their common applications to singular value decomposition, matrix factorization, similarity matrices (kernel methods), and graph analysis. Numerous machine learning applications have been used as examples, such as spectral clustering, kernel-based classification, and outlier detection. The tight integration of linear algebra methods with examples from machine learning differentiates this book from generic volumes on linear algebra. The focus is clearly on the most relevant aspects of linear algebra for machine learning and to teach readers how to apply these concepts.

2. Optimization and its applications: Much of machine learning is posed as an optimization problem in which we try to maximize the accuracy of regression and classification models. The “parent problem” of optimization-centric machine learning is least-squares regression. Interestingly, this problem arises in both linear algebra and optimization, and is one of the key connecting problems of the two fields. Least-squares regression is also the starting point for support vector machines, logistic regression, and recommender systems. Furthermore, the methods for dimensionality reduction and matrix factorization also require the development of optimization methods. A general view of optimization in computational graphs is discussed together with its applications to back propagation in neural networks. A frequent challenge faced by beginners in machine learning is the extensive background required in linear algebra and optimization. One problem is that the existing linear algebra and optimization courses are not specific to machine learning; therefore, one would typically have to complete more course material than is necessary to pick up machine learning. Furthermore, certain types of ideas and tricks from optimization and linear algebra recur more frequently in machine learning than other application-centric settings. Therefore, there is significant value in developing a view of linear algebra and optimization that is better suited to the specific perspective of machine learning.
