1. Record Nr. UNINA990001254890403321

Autore	John, Fritz
Titolo	Partial Differential Equations / de John
Pubbl/distr/stampa	Berlin [etc.] : Springer-Verlag
Collana	Applied mathematical sciences ; 1
Locazione	MA1
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Lingua di pubblicazione	Inglese
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Autore	Geiger Bernhard
Titolo	Information Bottleneck : Theory and Applications in Deep Learning
Pubbl/distr/stampa	Basel, Switzerland, : MDPI - Multidisciplinary Digital Publishing Institute, 2021
Descrizione fisica	1 online resource (274 p.)
Soggetti	Information technology industries
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Sommario/riassunto	The celebrated information bottleneck (IB) principle of Tishby et al. has recently enjoyed renewed attention due to its application in the area of deep learning. This collection investigates the IB principle in this new context. The individual chapters in this collection: • provide novel insights into the functional properties of the IB; • discuss the IB principle (and its derivates) as an objective for training multi-layer

machine learning structures such as neural networks and decision trees; and • offer a new perspective on neural network learning via the lens of the IB framework. Our collection thus contributes to a better understanding of the IB principle specifically for deep learning and, more generally, of information-theoretic cost functions in machine learning. This paves the way toward explainable artificial intelligence.