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Autore	Woronoff, Denis <1939- >
Titolo	L'industrie sidérurgique en France pendant la révolution et l'empire / Denis Woronoff ; préface d'Ernest Labrousse
Pubbl/distr/stampa	Paris : École des hautes études en sciences sociales, 1984
Descrizione fisica	592 p. ; 24 cm
Collana	Civilisations et sociétés ; 71
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Collocazione	COLLEZ. 132 (71) SE 25B.01.44-
Lingua di pubblicazione	Francese
Formato	Materiale a stampa
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2. Record Nr.	UNINA9911020429803321
Autore	Barth Lukas Silvester
Titolo	Data Visualization with Category Theory and Geometry : With a Critical Analysis and Refinement of UMAP / / by Lukas Silvester Barth, Hannaneh Fahimi, Parvaneh Joharinad, Jürgen Jost, Janis Keck
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Collana	Mathematics of Data, , 2731-4111 ; ; 3
Disciplina	004.0151
Soggetti	Dimension reduction (Statistics)
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Nota di contenuto	Chapter 1. Introduction -- Chapter 2. Illustrating UMAP on some simple data sets -- Chapter 3. Metrics and Riemannian manifolds -- Chapter 4. Merging fuzzy simplicial sets and metric spaces: A category theoretical approach -- Chapter 5. UMAP -- Chapter 6. IsUMap: An alternative to the UMAP embedding.
Sommario/riassunto	This open access book provides a robust exposition of the mathematical foundations of data representation, focusing on two essential pillars of dimensionality reduction methods, namely geometry in general and Riemannian geometry in particular, and category theory. Presenting a list of examples consisting of both geometric objects and empirical datasets, this book provides insights into the different effects of dimensionality reduction techniques on data representation and visualization, with the aim of guiding the reader in understanding the expected results specific to each method in such scenarios. As a showcase, the dimensionality reduction method of "Uniform Manifold Approximation and Projection" (UMAP) has been used in this book, as it is built on theoretical foundations from all the areas we want to highlight here. Thus, this book also aims to systematically present the details of constructing a metric representation of a locally distorted metric space, which is essentially the problem that UMAP is trying to address, from a more general perspective. Explaining how UMAP fits into this broader framework, while critically evaluating the underlying ideas, this book finally introduces an alternative algorithm to UMAP.

This algorithm, called IsUMap, retains many of the positive features of UMAP, while improving on some of its drawbacks.
