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Autore	Axenie Cristian
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Altri autori (Persone)	BauerRoman López CoronaOliver WestJeffrey
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Sommario/riassunto	As coined in the book of Nassim Taleb, antifragility is a property of a system to gain from uncertainty, randomness, and volatility, opposite to what fragility would incur. An antifragile system’s response to external perturbations is beyond robust, such that small stressors can strengthen the future response of the system by adding a strong anticipation component. Such principles are already well suited for describing behaviors in natural systems but also in approaching

therapy designs and eco-system modelling and eco-system analysis. The purpose of this book is to build a foundational knowledge base by applying antifragile system design, analysis, and development in natural systems, including biomedicine, neuroscience, and ecology as main fields. We are interested in formalizing principles and an apparatus that turns the basic concept of antifragility into a tool for designing and building closed-loop systems that behave beyond robust in the face of uncertainty when characterizing and intervening in biomedical and ecological (eco)systems. The book introduces the framework of applied antifragility and possible paths to build systems that gain from uncertainty. We draw from the body of literature on natural systems (e.g. cancer therapy, antibiotics, neuroscience, and agricultural pest management) in an attempt to unify the scales of antifragility in one framework. The work of the Applied Antifragility Group in oncology, neuroscience, and ecology led by the authors provides a good overview on the current research status.