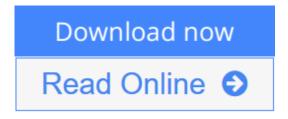


## Biomimetics: Biologically Inspired Technologies

By Yoseph Bar-Cohen



Biomimetics: Biologically Inspired Technologies By Yoseph Bar-Cohen

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The book contains pioneering approaches to biomimetics including a new perspective on the mechanization of cognition and intelligence, as well as defense and attack strategies in nature, their applications, and potential. It surveys the field from modeling to applications and from nano- to macro-scales, beginning with an introduction to principles of using biology to inspire designs as well as biological mechanisms as models for technology.

This innovative guide discusses evolutionary robotics; genetic algorithms; molecular machines; multifunctional, biological-, and nano- materials; nastic structures inspired by plants; and functional surfaces in biology. Looking inward at biological systems, the book covers the topics of biomimetic materials, structures, control, cognition, artificial muscles, biosensors that mimic senses, artificial organs, and interfaces between engineered and biological systems. The final chapter contemplates the future of the field and outlines the challenges ahead.

Featuring extensive illustrations, including a 32-page full-color insert, Biomimetics: Biologically Inspired Technologies provides unmatched breadth of scope as well as lucid illumination of this promising field.



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