Modern Artificial Intelligence is a branch of computer science that relates computers with nature in two complementary ways. On the one hand, it aims to provide computers with the intellectual abilities of natural creatures—animals and humans—such as the ability to learn, think, and speak. On the other hand, it studies very powerful ways existing in the nature for solving highly complex search and optimization problems. In many cases the solution is a combination of the two: a naturally-inspired algorithm used to make the computer more human-like.

This volume contains 20 carefully selected peer-reviewed original research papers on both theoretical advances and practical applications of artificial intelligence techniques. The papers are structured into the following six sections:

Neural Networks and Genetic Algorithms
Natural Language Processing
Human-Computer Intrefaces
Information Retrieval
Robotics
Intelligent Tutoring Systems

The volume will be useful for researches and students working in the respective areas of artificial intelligence, as well as for all readers interested in artificial intelligence research and applications.

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