

Introduction to Artificial Intelligence

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Preface

There are a variety of excellent monographs and textbooks on Artificial Intelligence. Let us mention only such classic books as: *Artificial Intelligence. A Modern Approach* by S.J. Russell and P. Norvig, *Artificial Intelligence* by P.H. Winston, *The Handbook of Artificial Intelligence* by A. Barr, P.R. Cohen, and E. Feigenbaum, *Artificial Intelligence: Structures and Strategies for Complex Problem Solving* by G. Luger and W. Stubblefield, *Artificial Intelligence: A New Synthesis* by N. Nilsson, *Artificial Intelligence* by E. Rich, K. Knight, and S.B. Nair, and *Artificial Intelligence: An Engineering Approach* by R.J. Schalkoff. Writing a (very) concise introduction to Artificial Intelligence that can be used as a textbook for a one-semester introductory lecture course for computer science students as well as for students of other courses (cognitive science, biology, linguistics, etc.) has been the main goal of the author.

As the book can also be used by students who are not familiar with advanced models of mathematics, AI methods are presented in an intuitive way in the second part of the monograph. Mathematical formalisms (definitions, models, theorems) are included in appendices, so they can be introduced during a lecture for students of computer science, physics, etc. Appendices A–J relate to Chaps. 4–13, respectively.

Short biographical notes on researchers that influenced Artificial Intelligence are included in the form of footnotes. They are presented to show that AI is an interdisciplinary field, which has been developed for more than half a century due to the collaboration of researchers representing such scientific disciplines as philosophy, logics, mathematics, computer science, physics, electrical engineering, biology, cybernetics, biocybernetics, automatic control, psychology, linguistics, neuroscience, and medicine.

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