

# **Artificial Intelligence**

## **Concepts, Methodologies, and Applications**

**Gajendra Kumar Ahirwar**

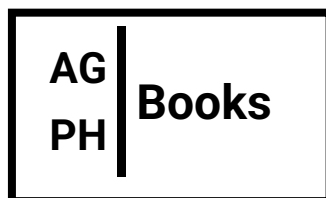
Research Scholar, Department: Information Technology, UIT RGPV Bhopal

**Dr. Suryabhan Pratap Singh**

Assistant Professor, Department of Information Technology of Institute of Engineering and Technology, Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur, Uttar Pradesh, India

**Dr. K. Kanimozhi**

Assistant Professor, Department of Computer Science at Karpagam Academy of Higher Education, Coimbatore, Tamilnadu, India



**2022**

First Edition: 2022



978-93-94339-63-7

**© Copyright Reserved by the publishers**

Publication, Distribution and Promotion Rights reserved by Academic Guru Publishing House, Bhopal, Madhya Pradesh (Publisher) Despite every effort, there may still be chances for some errors and omissions to have crept in inadvertently.

No part of this publication may be reproduced in any form or by any means, electronically, mechanically, by photocopying, recording or otherwise, without the prior permission of the publishers. The views and results expressed in various articles are those of the authors and not of editors or publisher of the book.

**Published by:**

Academic Guru Publishing House,

B-6, Shopping Complex, Ground Floor, Hoshangabad Rd, behind Indian Oil Petrol Pump,  
Vidya Nagar, Bhopal, Madhya Pradesh 462026

Website: <https://www.agphbooks.com>

## About the Book

Since the recent breakthroughs in artificial intelligence as well as machine learning, the phrase "artificial intelligence" has been more widely used in computer science and the area of computers. Automated learning is a subfield of artificial intelligence in which robots are tasked with automating routine tasks and are seen as being more intelligent than people themselves. Robotics and the Internet of Things (IoT) have elevated machines to a degree of cognition and intelligence unmatched by their human counterparts. As a result of their ability to learn in a far more rapid and efficient manner, they have been dubbed "robots."

Cutting-edge technology now rules the globe, and people are aware of its influence wherever they look. Mobile applications, augmented reality, artificial intelligence, blockchain, and the internet of things are just a few innovative technologies that have transformed the world to make it a better place to live. In this blog, we shall mostly concentrate on 'Artificial Intelligence (AI). Mobile phones, vehicles, and other smart gadgets all make use of this sophisticated technology. Smartphones are equipped with artificial intelligence (AI) that aids users in doing tasks like searching, taking images, and more. Cars are also fitted with artificial intelligence (AI), which helps with a variety of tasks including parking and avoiding accidents with people or objects on the road. Many people are concerned that artificial intelligence (AI) will replace human workers, but the truth is that human interaction will always be necessary, no matter what.

The retail, medical, hospitality, industrial, and financial industries have all seen advancements as a result of breakthroughs in artificial intelligence (AI). This book

covers a wide range of topics related to recent advances in several AI technologies as well as different innovative fields they are being applied to keep the reader in touch with latest technological developments and also to provide them with an understanding of how things work. Students, Professors, lectures as well as any layman can find this book useful.

## **Preface**

Artificial intelligence (AI) is a technology which mimics human intellect, enabling computer applications to learn from the experience through iterative processing as well as algorithmic training. AI systems gain smarter with every successful cycle of data processing as every interaction enables the system to test as well as measure solutions, and build competence in the job it's been given to achieve. Since this can be accomplished swiftly, considerably quicker than the pace a human being will be able to execute identical job, AI systems can become experts significantly faster than the humans, making them very effective solutions for any process involving intelligent decision making.

This makes AI a very powerful, and tremendously useful technology, as it effectively enables computers to think and act similar to humans, but at much quicker rates and with far more processing capability than the human brain can create. In many circumstances and for a number of different applications, the AI systems are capable of greatly outperforming humans, as well as that the major reason why AI technology has become so vital to the current economy.

AI has already been used to a full host of vital operations from the medical sciences to education to military etc., but there are hundreds or perhaps thousands of more applications for nearly every area of the contemporary economy. "What makes AI such a game-changing technology?" The fact that technology can execute comparable duties as human humans, but quicker, and with fewer errors. This book presents a collection of papers that are focused on explaining the various algorithms as well as recent

advances in the field AI technologies such as Natural language Processing, Artificial Neurons, Pattern Recognition, Machine Learning, Deep Learning, Intelligent Systems etc. and their applications for solving different issues in the current era. This book is recommended for anyone who is interested in keeping an update knowledge of the ongoing research and developments in the AI field.

**- Editorial Team**

**Artificial Intelligence: Concepts, Methodologies, and Applications**

**(ISBN: 978-93-94339-63-7)**