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BOOK REVIEW

Book Review: *Introduction to Artificial Intelligence*. Ed. by Fei Wu and Yunhe Pan

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Artificial intelligence (AI) is a strategic technology and an important driving force leading the scientific and technological revolution and industrial change. AI has the potential to enhance every technology as it resembles enabling technologies like the combustion engine or electricity. We believe the nature of AI is interdisciplinary. In other words, the power of AI lies in augmenting its ability to accelerate research exponentially and the possibilities are endless.

This book, based on the concept of "laying a solid foundation, strengthening cross-disciplinary, cultivating character, and promoting application," cultivates a solid grasp of the basic theory, algorithmic methods, architecture system, and applied engineering technology of AI, which is familiar with cross-disciplinary knowledge related to AI and cultivates cross-disciplinary awareness, and has scientific literacy, ethical cultivation, practical ability, innovation ability, systematic ability, and international vision. It can play an important role in the development of China's AI disciplines and industrial technology, and has the potential to train first-class talent in the field of AI or related fields.

The book is organized into ten chapters in total: computational theory and Turing machine, knowledge representation and reasoning, searching and problem-solving, machine learning, neural network and deep learning, reinforcement learning, game theory in AI, ethics and security of AI, AI architecture and system, and AI applications. At the end of each chapter, "extended reading" is provided to further expand the content of the chapter from different perspectives such as history, present, and future, helping readers gain a deeper understanding of AI.

The best way to learn AI is to practice. One cannot truly learn until and unless one truly gets some hands-on training for solving real problems. Each chapter of this textbook contains multiple exercises and provides programming practice questions in digital form. The training platform used is Wise Ocean Mo, which provides a one-stop repository of resources to help curriculum learners better understand the promise and implications of domain-specific AI. Zhejiang University, in collaboration with Higher Education Press and other institutions, has released a large language model called "wisdomBot-Sanle", which provides intelligent Q&A, question generation, learning navigation, and teaching evaluation services for the content of this book.

This book serves as the designated textbook for the core course "Introduction to Artificial Intelligence" under the Ministry of Education of the People's Republic of China's 101 Plan, a pilot initiative for undergraduate education reform in computer science. Moreover, this textbook serves as the primary teaching material for the online open course "Artificial Intelligence: Models and Algorithms"—one of the first national first-class undergraduate offerings on Chinese universities' MOOC platform, iCourse.

The book was guided and reviewed by Turing Award winner John Edward Hopcroft, former president of the American Association for Artificial Intelligence and Prof. Bart Selman from Cornell University, and Prof. Stuart Russell from the University of California, Berkeley.

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Conflict of Interest Fei Wu is a member of the Editorial Board of *Frontiers of Digital Education*, who was excluded from the peer-review process and all editorial

decisions related to the acceptance and publication of this article. Peer-review was handled independently by the other editors to minimise bias.

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