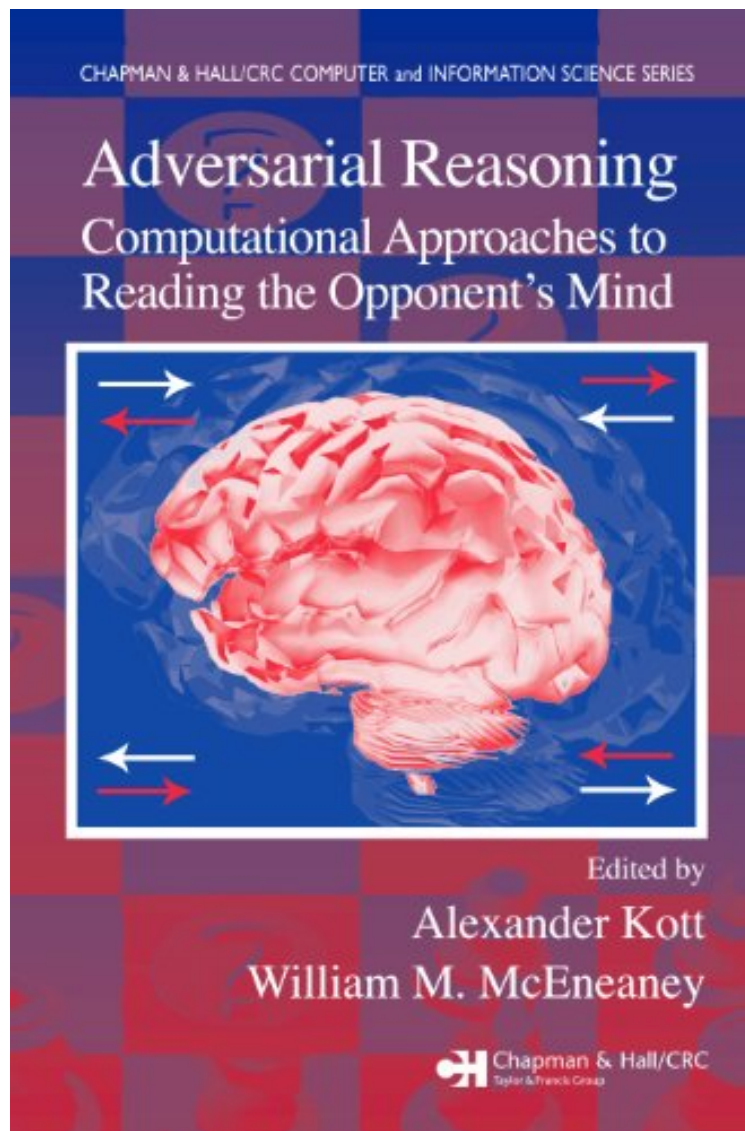


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(Chapman Hall/CRC Computer and Information Science Series)

## Adversarial Reasoning: Computational Approaches to Reading the Opponent's Mind (Chapman Hall/CRC Computer and Information Science Series)

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From Chapman and Hall/CRC : Adversarial Reasoning: Computational Approaches to Reading the Opponent's Mind (Chapman Hall/CRC Computer and Information Science Series) before purchasing it in order to gauge whether or not it would be worth my time, and all praised Adversarial Reasoning: Computational Approaches to Reading the Opponent's Mind (Chapman Hall/CRC Computer and Information Science Series):

5 of 5 people found the following review helpful. Powerful even without the maths  
By E. M. Van Court "Adversarial Reasoning" is a powerful work and relevant for folks who are not computer oriented. Coming from a liberal arts background (masters in poli-sci, BA in classical humanities), things like sigma notations and multiple Greek letters in a formula make me break out in a cold sweat and the shakes. Despite this disadvantage, the qualitative parts of each chapter were of great relevance to anyone involved in predictive analysis of n-player games (like geo-politics). Each chapter started with a clear and well articulated presentation of the material before going into the maths and computer applications of the concepts. It is this presentation that I read, before having to go for a lie-down when I saw all the formulae. The book was laid out logically, with a handy little matrix to show the appropriate chapter for a given sub-topic up front. The first section was a discussion of the opponent and inferring and identifying the opponent's intent. The second section was a discussion of deception. The third section was split between the impact of imperfect information and strategizing. Deception (building on the discussions of opponent's intent) was both the best developed concept, and probably the one most directly applicable by the non-computer person. Imperfect information, however, may be the most important discussion in the book as this is the situation most disturbing to real world actors. The closest thing to a criticism is just a vague perception that the authors might be a little naive about the ruthlessness of real world actors. This may be an artifact of the academic language. Also, a closer examination of situations of asymmetric utility and the impact of this situation on all actors in game play would be valuable to real world applications. Over all, a great work. This work re-written in purely qualitative terms for poli-sci and military folks (n.b. history is the most common major among Army officers) would be a valuable addition to the education of future political and military leaders. For folks from liberal arts backgrounds - don't let the numbers cow you, there is a lot of value in the first pages of each chapter.

1 of 1 people found the following review helpful. Adversarial Reasoning - Exploring The Undiscovered Country!  
By Keith Anthony Traditional thinking about adversaries has addressed easily observable and quantifiable issues, such as what? how many? who? The undiscovered country is a place where other, perhaps more relevant questions are answered: when? why? how likely? under what conditions? It is a place where, perhaps, one can make reasonable stabs at "what is the adversary likely to do next?" For anyone interested in going beyond the exercise of counting and analyzing things (airplanes, missiles, bullets, etc), this book is an essential addition. Why? Because it shows new applications of maturing fields of science to the task of UNDERSTANDING THE ENEMY. The only weakness, and a minor one at that, is that the book, though new, does not address some of the state-of-the-art analytical tools now becoming available. But, perhaps these will be covered in follow-on books. They should be.

2 of 3 people found the following review helpful. Defines the Current State of the Art  
By John Matlock As early as the 1950's and 60's computer scientists began to apply computers to game theory. The results appeared as a series of computer games. As computer power has increased so has the complexity of the games. Playing the game at various skill levels soon followed. This has required the analysis of what the game adversary can do to you in terms of the resources he has, where your resources are deployed, etc. The inverse of this problem is to analyze what the adversary can or might do that would affect your own security. As this capability began to be realized, DARPA, the central research authority of the US Department of Defense began several research programs to assist in predicting what an adversary might do. This book is written by several researchers in the field who describe the particular aspects of their own research as it ties into the overall research being conducted. The book is organized into three general areas: Determining the Opponent's Intent and Plans, Detecting Deception, Operating with Limited and Perhaps Corrupted Information. This book represents the state of the art in the field as it ties in game theory, artificial intelligence, behavioral science, statistical and probabilistical methods, along with numerous computer science procedures to begin to see what our adversaries are planning.

The rising tide of threats, from financial cybercrime to asymmetric military conflicts, demands greater sophistication in tools and techniques of law enforcement, commercial and domestic security professionals, and terrorism prevention. Concentrating on computational solutions to determine or anticipate an adversary's intent, *Adversarial Reasoning: Computational Approaches to Reading the Opponent's Mind* discusses the technologies for opponent strategy prediction, plan recognition, deception discovery and planning, and strategy formulation that not only applies to security issues but also to game industry and business transactions. Addressing a broad range of practical problems, including military planning and command, military and foreign intelligence, antiterrorism, network security, as well as simulation and training systems, this reference presents an overview of each problem and then explores various approaches and applications to understand the minds and negate the actions of your opponents. The techniques discussed originate from a variety of disciplines such as stochastic processes, artificial intelligence planning, cognitive modeling, robotics and agent theory, robust control, game theory, and machine learning, among others. The beginning chapters outline the key concepts related to discovering the opponent's intent and plans while the later chapters journey into mathematical methods for counterdeception. The final chapters employ a range of techniques, including reinforcement learning within a stochastic dynamic games context to devise strategies that combat opponents. By answering specific questions on how to create practical applications that require elements of adversarial reasoning while also exploring theoretical developments, *Adversarial Reasoning: Computational Approaches to Reading the*

Opponent's Mind is beneficial for practitioners as well as researchers.