

Book Review

Probabilistic Reasoning in Intelligent Systems: Networks of Plausible Inference

Elegant Discussion On Probabilistic Reasoning And Uncertainty,

Pearl's "Probabilistic Reasoning in Intelligent Systems" is elegantly done seminal work on uncertainty, probabilistic reasoning and all things related inference. As the author says, "This book is a culmination of an investigation into the applicability of probabilistic methods to task requiring automated reasoning under uncertainty", it covers topics on all level i.e. basic ideas, technical and substantive discussions and advanced research. However, my impression of book's target audiences is researchers and readers with a advance understanding of these topics.

"Probabilistic Reasoning in Intelligent Systems" provides very comprehensive and detailed discussion on topics like why uncertainty is important, probabilistic reasoning for query answering system, Markov and Bayesian networks etc; It goes beyond the text and into philosophical discussion as well, for instance it talks about what Bayesian rule's mathematical representation actually mean. The topic "Learning structures from data" is a good discussion of belief networks. As an advance text book, it's equipped with theorem proofs, exercises but not very many examples which disappoints. The book covers default logic very well; topics like semantics for default reasoning, casualty modularity and tree structures, evidential reasoning in taxonomic hierarchies, decision analysis, and autonomous propagation as a computational paradigm are some of the well discussed ones. I particularly enjoyed the Bayesian vs. Dempster-Shafer formulism, probabilistic treatment of the Yale shooting problem and dialogue between logicist and probabilist, the concluding discussion.

Author:

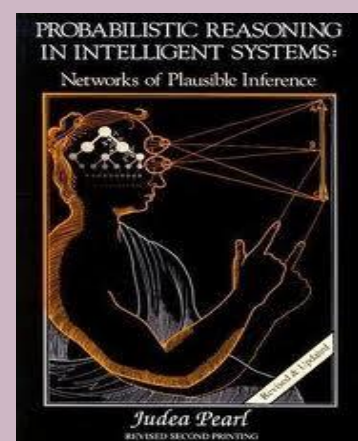
Judea Pearl

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http://www.amazon.com/Probabilistic-Reasoning-Intelligent-Systems-Plausible/product-reviews/1558604790/ref=cm_cr_dp_see_all_btm?ie=UTF8&showViewpoints=1&sortBy=bySubmissionDateDescending



For book reviews, please feel free to contact Adnan Masood at adnan@nova.edu

I'd recommend this book as a secondary resource for advance researchers in the field of probability and uncertainty.

About the Reviewer



Adnan Masood works as a web architect and technical lead for Green Dot Corporation where he develops SOA based middle-tier architectures, distributed systems, and web-applications using Microsoft technologies. He is a Microsoft Certified Trainer holding several technical certifications, including MCPD (Enterprise Developer), MCSD .NET, and SCJP-II. Adnan is attributed and published in print media and on the Web; he is technical editor for "[Microsoft Windows Server AppFabric Cookbook](#)" and also taught [Windows Communication Foundation \(WCF\) courses at the University of California at San Diego](#).

Adnan [regularly presents](#) at local code camps and user groups. He is actively involved in the .NET community as cofounder and president of the of San Gabriel Valley .NET Developers group. Adnan holds a Master's degree in Computer Science; he is currently a [doctoral student working towards PhD in Machine Learning](#); specifically interestingness measures in outliers using Bayesian Belief Networks. He also holds systems architecture certification from MIT and SOA Smarts certification from Carnegie Mellon University.