A Practical Logic of Cognitive Systems

Description: The present work is a continuation of the authors' acclaimed multi-volume A Practical Logic of Cognitive Systems. After having investigated the notion of relevance in their previous volume, Gabbay and Woods now turn to abduction. In this highly original approach, abduction is construed as ignorance-preserving inference, in which conjecture plays a pivotal role. Abduction is a response to a cognitive target that cannot be hit on the basis of what the agent currently knows. The abducer selects a hypothesis which were it true would enable the reasoner to attain his target. He concludes from this fact that the hypothesis may be conjectured. In allowing conjecture to stand in for the knowledge he fails to have, the abducer reveals himself to be a satisficer, since an abductive solution is not a solution from knowledge. Key to the authors' analysis is the requirement that a conjectured proposition is not just what a reasoner might allow himself to assume, but a proposition he must defeasibly release as a premiss for further inferences in the domain of enquiry in which the original abduction problem has arisen.

The coverage of the book is extensive, from the philosophy of science to computer science and AI, from diagnostics to the law, from historical explanation to linguistic interpretation. One of the volume's strongest contributions is its exploration of the abductive character of criminal trials, with special attention given to the standard of proof beyond a reasonable doubt.

Underlying their analysis of abductive reasoning is the authors' conception of practical agency. In this approach, practical agency is dominantly a matter of the comparative modesty of an agent's cognitive agendas, together with comparatively scant resources available for their advancement. Seen in these ways, abduction has a significantly practical character, precisely because it is a form of inference that satisfices rather than maximizes its response to the agent's cognitive target.

The Reach of Abduction will be necessary reading for researchers, graduate students and senior undergraduates in logic, computer science, AI, belief dynamics, argumentation theory, cognitive psychology and neuroscience, linguistics, forensic science, legal reasoning and related areas.

Key features:

- Reach of Abduction is fully integrated with a background logic of cognitive systems.
- The most extensive coverage compared to competitive works.
- Demonstrates not only that abduction is a form of ignorance preserving inference but that it is a mode of inference that is wholly rational.
- Demonstrates the satisficing rather than maximizing character of abduction.
- The development of formal models of abduction is considerably more extensive than one finds in existing literature. It is an especially impressive amalgam of sophisticated conceptual analysis and extensive logical modelling.
- Reach of Abduction is fully integrated with a background logic of cognitive systems.
- The most extensive coverage compared to competitive works
- Demonstrates not only that abduction is a form of ignorance preserving inference but that it is a mode of inference that is wholly rational.
- Demonstrates the satisficing rather than maximizing character of abduction.
- The development of formal models of abduction is considerably more extensive than one finds in existing
literature. It is an especially impressive amalgam of sophisticated conceptual analysis and extensive logical modelling.

Contents:

Acknowledgements.
Preface.

A Practical Logic of Cognitive Systems
1. Introduction
2. Practical Logic
Conceptual Models of Abduction
3. The Structure of Abduction
4. Explanationist Abduction
5. Non-Plausibilistic Abduction
6. Diagnostic Abduction in AI
7. The Characteristic and the Plausible
8. Relevance and Analogy
9. Interpretation Abduction
Formal Models of Abduction
10. A Glimpse of Formality
11. A General Theory of Logical Systems
12. A Base Logic
13. An Abductive Mechanism for the Base Logic
Bibliography.
Index.

Ordering:

Order Online - http://www.researchandmarkets.com/reports/1752282/

Order by Fax - using the form below

Order by Post - print the order form below and send to

Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit
http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct.

Product Name: A Practical Logic of Cognitive Systems
Web Address: http://www.researchandmarkets.com/reports/1752282/
Office Code: SC

Product Format
Please select the product format and quantity you require:

<table>
<thead>
<tr>
<th>Quantity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard Copy (Hard Back):</td>
<td>USD 230 + USD 30 Shipping/Handling</td>
</tr>
</tbody>
</table>

* Shipping/Handling is only charged once per order.
* The price quoted above is only valid for 30 days. Please submit your order within that time frame to avail of this price as all prices are subject to change.

Contact Information
Please enter all the information below in BLOCK CAPITALS

Title: Mr ☐ Mrs ☐ Dr ☐ Miss ☐ Ms ☐ Prof ☐
First Name: ___________________________ Last Name: ___________________________
Email Address: * _______________________
Job Title: ______________________________
Organisation: __________________________
Address: ________________________________________________________________
City: ________________________________
Postal / Zip Code: _______________________
Country: __________________________
Phone Number: __________________________________________________________
Fax Number: ____________________________________________________________

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:
Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by Wire Transfer: Bank details will be provided on the invoice which you will receive after you place your order with us.

If you have a Marketing Code please enter it below:

Marketing Code: __________________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp

Please fax this form to:
(646) 607-1907 or (646) 964-6609 - From USA
+353-1-481-1716 or +353-1-653-1571 - From Rest of World