

# (AI EDAM)

---

## ARTIFICIAL INTELLIGENCE FOR ENGINEERING DESIGN, ANALYSIS AND MANUFACTURING

---

Editor      Clive L. Dym

VOLUME 2, 1988

ACADEMIC PRESS

*Harcourt Brace Javanovich, Publishers*  
London San Diego New York Boston  
Sydney Tokyo Toronto  
ISSN 0890-0604

Reprinted with permission of Cambridge University Press by



SWETS & ZEITLINGER BV  
LISSE - THE NETHERLANDS - 1994

# (AI EDAM)

---

---

## ARTIFICIAL INTELLIGENCE FOR ENGINEERING DESIGN, ANALYSIS AND MANUFACTURING

---

---

Editor      Clive L. Dym

**VOLUME 2**

**ACADEMIC PRESS**

*Harcourt Brace Javanovich, Publishers*  
London San Diego New York Boston  
Sydney Tokyo Toronto  
ISSN 0890-0604

Reprinted with permission of Cambridge University Press by



**SWETS & ZEITLINGER BV**  
**LISSE - THE NETHERLANDS - 1994**

## **Volume 2, No. 1**

<b>Chan, K. and Hoeltzel, D. A.</b> A knowledge-based user interface for the interactive design of three-dimensional objects . . . . .	1
<b>Kota, S., Erdman, A. G., Riley, D. R., Esterline, A. and Slagle, J. R.</b> A network based expert system for intelligent design of mechanisms . . . . .	17
<b>Ullman, D. G., Dietterich, T. G. and Stauffer, L. A.</b> A model of the mechanical design process based on empirical data . . . . .	33
<b>Ishii, K., Adler, R. and Barkan, P.</b> Application of design compatibility analysis to simultaneous engineering . . . . .	53
<b>Research in Progress Briefs</b> . . . . .	67

## **Volume 2, No. 2**

<b>Parunak, H. V. D., Kindrick, J. D. and Muralidhar, K. H.</b> MAPCon: a case study in a configuration expert system . . . . .	71
<b>Goel, V.</b> A cognitive strategy for structuring space . . . . .	89
<b>Gray, M. A.</b> An intelligent design machine: architecture and search strategies . . . . .	105
<b>Practicum Paper</b>	
<b>Garrett, Jr., J. H. and Jain, A.</b> Encore: an object-oriented knowledge-based system for transformer design . . . . .	123

## **Volume 2, No. 3**

<b>Mogush, J. E., Carrega, D., Spirtes, P. and Fox, M. S.</b> Treatment selection by constraint propagation a case study in cutting fluid selection . . . . .	135
<b>Darwiche, A., Levitt, R. E. and Hayes-Roth, B.</b> OARPLAN: Generating project plans by reasoning about objects, actions and resources . . . . .	169
<b>Chang, T.-C., Ibbs, C. W. and Crandall, K. C.</b> A fuzzy logic system for expert systems . . . . .	183
<b>Books Received</b> . . . . .	195

## Author Index

<b>Adler, R.</b> see <b>Ishii, K.</b> . . . . .	53
<b>Barkan, P.</b> see <b>Ishii, K.</b> . . . . .	53
<b>Books Received</b> . . . . .	195
<b>Carrega, D.</b> see <b>Mogush, J. E.</b> . . . . .	135
<b>Chan, K.</b> and <b>Hoeltzel, D. A.</b> A knowledge-based user interface for the interactive design of three-dimensional objects . . . . .	1
<b>Chang, T.-C.</b> , <b>Ibbs, C. W.</b> and <b>Crandall, K. C.</b> A fuzzy logic system for expert systems . . . . .	183
<b>Crandall, K. C.</b> see <b>Chang, T.-C.</b> . . . . .	183
<b>Darwiche, A.</b> , <b>Levitt, R. E.</b> and <b>Hayes-Roth, B.</b> OARPLAN: Generating project plans by reasoning about objects, actions and resources . . . . .	169
<b>Dietterich, T. G.</b> see <b>Ullman, D. G.</b> . . . . .	33
<b>Erdman, A. G.</b> see <b>Kota, S.</b> . . . . .	17
<b>Esterline, A.</b> see <b>Kota, S.</b> . . . . .	17
<b>Fox, M. S.</b> see <b>Mogush, J. E.</b> . . . . .	135
<b>Garrett, Jr., J. H.</b> and <b>Jain, A.</b> Encore: an object-oriented knowledge-based system for transformer design . . . . .	123
<b>Goel, V.</b> A cognitive strategy for structuring space . . . . .	89
<b>Gray, M. A.</b> An intelligent design machine: architecture and search strategies . . . . .	103
<b>Hayes-Roth, B.</b> see <b>Darwiche, A.</b> . . . . .	169
<b>Hoeltzel, D. A.</b> see <b>Chan, K.</b> . . . . .	1
<b>Ibbs, C. W.</b> see <b>Chang, T.-C.</b> . . . . .	183
<b>Ishii, K.</b> , <b>Adler, R.</b> and <b>Barkan, P.</b> Application of design compatibility analysis to simultaneous engineering . . . . .	53
<b>Jain, A.</b> see <b>Garrett, Jr. J. H.</b> . . . . .	123
<b>Kota, S.</b> , <b>Erdman, A. G.</b> , <b>Riley, D. R.</b> , <b>Esterline, A.</b> and <b>Slagle, J. R.</b> A network based expert system for intelligent design of mechanisms . . . . .	17
<b>Levitt, R. E.</b> , see <b>Darwiche, A.</b> . . . . .	169
<b>Mogush, J. E.</b> , <b>Carrega, D.</b> , <b>Spirtes, P.</b> and <b>Fox, M. S.</b> Treatment selection by constraint propagation a case study in cutting fluid selection . . . . .	135
<b>Parunak, H. V. D.</b> , <b>Kindrick, J. D.</b> and <b>Muralidhar, K. H.</b> MAPCON: a case study in a configuration expert system . . . . .	71
<b>Research in Progress Briefs</b> . . . . .	67
<b>Riley, D. R.</b> see <b>Kota, S.</b> . . . . .	17
<b>Slagle, J. R.</b> see <b>Kota, S.</b> . . . . .	17
<b>Spirtes, P.</b> see <b>Mogush, J. E.</b> . . . . .	135
<b>Stauffer, L. A.</b> see <b>Ullman, D. G.</b> . . . . .	33
<b>Ullman, D. G.</b> , <b>Dietterich, T. G.</b> and <b>Stauffer, L. A.</b> A model of the mechanical design process based on empirical data . . . . .	33