CAMBRIDGE

New in Robotics from Cambridge University Press

Mobile Robotics

Mathematics, Models, and Methods

Alonzo Kelly

Mobile Robotics offers comprehensive coverage of the essentials of the field suitable for both students and practitioners. Adapted from Alonzo Kelly's graduate and undergraduate courses, the content of the book reflects current approaches to developing effective mobile robots. Professor Kelly adapts principles and techniques from the fields of mathematics, physics, and numerical methods to present a consistent framework in a notation that facilitates learning and highlights relationships between topics. This text was developed specifically to be accessible to senior level undergraduates in engineering and computer science, and includes supporting exercises to reinforce the lessons of each section. Practitioners will value Kelly's perspectives on practical applications of these principles. Complex subjects are reduced to implementable algorithms extracted from real systems wherever possible, to enhance the real-world relevance of the text.

\$99.00: Hardback: 978-1-107-03115-9: 808 pp.

Social Media Intelligence

Wendy W. Moe and David A. Schweidel

As consumers, we turn to the public arena of social media to share our opinions and learn about the opinions of others. Fortune 500 companies, political campaigns, government agencies and many other organizations constantly monitor social media to gauge public opinion. This book explains how opinions are formed, what affects the opinions posted online and how organizations can use social media to inform their strategies.

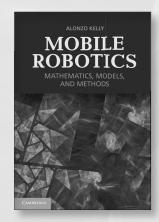
\$50.00: Hardback: 978-1-107-03120-3: 200 pp.

Methods of Argumentation

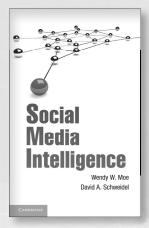
Douglas Walton

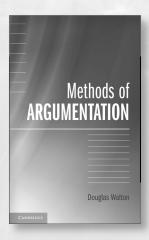
Argumentation, which can be abstractly defined as the interaction of different arguments for and against some conclusion, is an important skill for everyday life, law, science, politics, and business. This book, written by a leading expert, and based on the latest research, shows how to apply methods of argumentation to a range of interesting examples. Written in a nontechnical style, the book explains what you most need to know by applying the methods to many real examples of arguments found in everyday conversational exchanges and legal argumentation.

\$95.00: Hardback: 978-1-107-03930-8: 318 pp. \$32.99: Paperback: 978-1-107-67733-3



Available for most titles!





Prices subject to change.

www.cambridge.org/computerscience 800.872.7423
@cambUP_maths



CAMBRIDGE

JOURNALS

The Knowledge Engineering Review

Editors-in-Chief

Peter McBurney, University of Liverpool, UK Simon Parsons, Brooklyn College, City University of New York, USA

The Knowledge Engineering Review is committed to the development of the field of artificial intelligence and the clarification and dissemination of its methods and concepts. KER publishes analyses – high quality surveys providing balanced but critical presentations of the primary concepts in an area; technical tutorials – detailed introductions to an area; application and country surveys commentaries and debates; book reviews; and a popular 'from the journals' section, providing the contents of current journals in theoretical and applied artificial intelligence.

Price information

is available at: http://journals.cambridge.org/ker

Free email alerts

Keep up-to-date with new material – sign up at http://journals.cambridge.org/ker-alerts



The Knowledge Engineering Review

is available online at: http://journals.cambridge.org/ker

To subscribe contact Customer Services

in Cambridge:

Phone +44 (0)1223 326070 Fax +44 (0)1223 325150 Email journals@cambridge.org

in New York:

Phone +1 (845) 353 7500 Fax +1 (845) 353 4141 Email subscriptions_newyork@cambridge.org

For free online content visit: http://journals.cambridge.org/ker



Instructions for contributors

Robotica aims to be an outlet for publication of original papers of the highest quality in the field of Robotics and closely related areas. This includes: novel robotic mechanism and actuator design; robot kinematics, dynamics and control; computer vision; sensor fusion; teleoperation and haptic interfaces; robot motion planning; and artificial intelligence. In addition, papers that apply techniques from Robotics to other fields are also welcome. Examples include dynamics and control models applied to biological systems, the description of implementations of robots in factories, service and agricultural settings, and general mechatronic design. Works may be theoretical, computational or experimental, or some combination. Both short papers (rapid communications), and longer archival papers are welcome. Proposals for special issues on topics of current interest are welcome, and can be submitted via email to the editor.

Authors are urged to ensure that their papers are written clearly and attractively, in order that their work will be readily accessible to readers. Manuscripts must be written in English. *Robotica* employs a rigourous peer-review process whereby all submitted manuscripts are sent to recognized experts in their subjects for evaluation. The Editor's decision on the suitability of a manuscript for publication is final. Manuscripts, whether accepted or rejected, will not be returned to authors.

Submission of manuscripts

Manuscripts for consideration by Robotica should be submitted electronically, using the Manuscript Central System, via http://mc.manuscriptcentral.com/cup/robotica. This system will allow authors to benefit from faster review and earlier, online publication. The system will accept PDF files; most other files types will be automatically converted directly into PDF. Source files are required for any paper accepted for publication. Authors who are unable to submit online should contact the Editorial Office (gregc@jhu.edu) for assistance.

Submission of a paper is taken to imply that it has not been previously published and that it is not being considered for publication elsewhere. Upon acceptance of a paper, the author will be asked to transfer copyright to the publisher. Authors are responsible for obtaining written permission from the copyright owners to reprint any previously published material included in their article.

Layout of manuscripts

Text should be double spaced throughout, on one side of the paper, allowing generous margins on all sides of the paper. Please avoid footnotes if possible. Papers should begin with an abstract of not more than 100 words and should end with a brief concluding section. The title and section headings should be concise and descriptive. All measurements should be given in SI units. On acceptance of a manuscript, authors are asked to send the electronic source file of the final version together with a PDF copy produced using the same file. The publisher reserves the right to typeset material by conventional means if an author's file proves unsatisfactory.

Illustrations

Figures should be composed to occupy a single column (80mm) or two columns (166mm) after reduction. The preferred format for figure files is .eps or .tiff at resolution 1200 dpi for lines, 600 dpi for greyscale and 300 dpi for colour (which preferably should also be in CMYK – cyan magenta yellow black – format). However,

© CAMBRIDGE UNIVERSITY PRESS 2014

Cambridge University Press The Edinburgh Building, Cambridge CB2 8RU, United Kingdom 32 Avenue of the Americas, New York, NY 10013-2473, USA 477 Williamstown Road, Port Melbourne, VIC 3207, Australia Ruiz de Alarcón 13, 28014, Madrid, Spain Dock House, The Waterfront, Cape Town 8001, South Africa

Printed in the UK by Bell & Bain Ltd, Glasgow

most standard image formats such as pct, ppm, png, psd, Word, ppt, CorelDraw, ChemDraw, AutoCAD can also be used, but not customized output of software not designed for publishing purposes such as Matlab, nor PDF. Figures to be printed in black and white must be submitted as black and white files.

Figures should be numbered consecutively, with Arabic numerals, have descriptive captions, and be mentioned in the text. A list of captions should be attached separately, and as far as possible, information relating to a figure should be placed in the caption rather than on the figure. Each figure should be clearly numbered. Photographs should be the same size as they will appear in the journal and should be selected to fit neatly into one column (80 mm) or two columns (166 mm). Photographs should be clearly identified and numbered as for line drawings.

Tables

Tables should be presented on separate sheets. A descriptive title should be given to each table. If possible, very wide tables should be avoided. Tables should be numbered consecutively in Roman numerals. Exceptionally lengthy tables may be summarized for publication with a note that fuller details can be obtained from the authors.

Equations

Mathematical equations should be typewritten, with subscripts and superscripts clearly indicated. All mathematical symbols will be set in italics unless otherwise indicated: symbols or letters to be set in Roman (upright) type should be marked clearly.

References

In the text, references are indicated by superior Arabic numbers (without brackets), and should be confined to published work that is directly pertinent. References should be listed at the end of the paper in numerical order. Authors' initials should precede their names: cited article titles should be quoted in full, enclosed in quotation marks; and abbreviations of journal names should follow the style of Chemical Abstracts or Physical Abstracts, and be underlined for italics:

P.W. Anderson, "More is different" *Science* 177, 393-399 (1972); C.V. Negoita, *Fuzzy Systems* (Abacus Press. Tunbridge Wells, UK, 1980).

Citations such as 'personal communication', 'unpublished work', etc., are not acceptable as numbered references but can be included in parenthesis in the text. Do not use summaries as references.

Proof Reading

The corresponding author will receive PDF copies of page proofs for final proofreading. Only typographical or factual errors may be changed at proof stage. The publisher reserves the right to charge authors for correction of non-typographical errors. Authors are requested to return proofs within 48 hours by airmail. No page charge is made.

Offprints

No paper offprints are provided, but the corresponding author will be sent the pdf of the published article. Print offprints may be purchased at extra cost at proof stage.

ROBOTICA

Volume 32 Part 1 January 2014

A psychophysical evaluation of haptic controllers: viscosity perception of soft environments, Hyoung II Son, Hoeryong Jung, Doo Yong Lee, Jang Ho Cho and Heinrich H. Bülthoff	1
Two different tools for three-dimensional mapping: DE-based scan matching and feature-based loop detection, Fernando Martín, Rudolph Triebel, Luis Moreno and Roland Siegwar	19
Vision-based autonomous hovering for a miniature uad-rotor, J. E. Gomez-Balderas , S. Salazar, J. A. Guerrero and R. Lozano	43
Experimental tests of a sliding mode controller for trajectory tracking of a car-like mobile robot, F. Hamerlain, T. Floquet and W. Perruquetti	63
Immune–wavelet optimization for path planning of large-scale robots, Saeid Asadi, Vahid Azimirad, Ali Eslami and Saeid Karimian Eghbal	77
UAV-borne X-band radar for collision avoidance, Allistair Moses, Matthew J. Rutherford, Michail Kontitsis and Kimon P. Valavanis	97
Beacon selection and calibration for the efficient localization of a mobile robot, Jaehyun Park and Jangmyung Lee	115
I am a warm robot: the effects of temperature in physical human-robot interaction, Eunil Park and Jaeryoung Lee	133
Fast and efficient visible trajectories planning for the Dubins UAV model in 3D built-up environments, Oren Gal and Yerach Doytsher	143
Laser interferometry measurements based calibration and error propagation identification for pose estimation in mobile robots, Paulo A. Jiménez	
and Bijan Shirinzadeh	165

Robotica now accepts submissions via Manuscript Central Go to http://mc.manuscriptcentral.com/cup/robotica

Cambridge Journals Online
For further information about this journal
please go to the journal website at:
journals.cambridge.org/rob



