### **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 (robotica@cambridge.org) 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, 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.

© Cambridge University Press & Assessment 2024

Cambridge University Press Journals Fulfillment Department, UPH, Shaftesbury Road, Cambridge CB2 8BS, UK. 1 Liberty Plaza, Floor 20, New York, NY 10006, 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

# ROBOTICA

Volume 42 Part 4 April 2024

Reinforcement learning-based motion control for snake robots in complex environments Dong Zhang, Renjie Ju and Zhengcai Cao	947
Design and analysis of a wall-climbing robot with passive compliant mechanisms to adapt variable curvatures walls Yifeng Song, Zhenyu Yang, Yong Chang, Hui Yuan and Song Lin	962
Self-adaptive learning particle swarm optimization-based path planning of mobile robot using 2D Lidar environment Julius Fusic S. and Sitharthan R.	977
A contact parameter estimation method for multi-modal robot locomotion on deformable granular terrains Shipeng Lyu, Wenyao Zhang, Chen Yao, Zhengtao Liu, Yang Su, Zheng Zhu and Zhenzhong Jia	1001
Design, simulation, control of a hybrid pouring robot: enhancing automation level in the foundry industry Wang Chengjun, Duan Hao and Li Long	1018
SLAMB&MAI: a comprehensive methodology for SLAM benchmark and map accuracy improvement Shengshu Liu, Erhui Sun and Xin Dong	1039
Enhancement of humanoid robot locomotion on slippery floors using an adaptive controller Luís Almeida, Vítor Santos and João Ferreira	1055
One-shot sim-to-real transfer policy for robotic assembly via reinforcement learning with visual demonstration Ruihong Xiao, Chenguang Yang, Yiming Jiang and Hui Zhang	1074
End-to-end deep learning-based framework for path planning and collision checking: bin-picking application Mehran Ghafarian Tamizi, Homayoun Honari, Aleksey Nozdryn-Plotnicki and Homayoun Najjaran	1094
Design and control of a compliant robotic actuator with parallel spring-damping transmission Peikang Yuan, Jianbin Liu, David T. Branson, Zhibin Song, Shuai Wu, Jian S. Dai and Rongjie Kang	1113
An improved fuzzy inference strategy using reinforcement learning for trajectory-tracking of a mobile robot under a varying slip ratio Muhammad Qomaruz Zaman and Hsiu-Ming Wu	1134
Path planning for robots in preform weaving based on learning from demonstration Zhuo Meng, Shuo Li, Yujing Zhang and Yize Sun	1153
Computer-aided design tool for typical flexible mechanisms synthesis by means of evolutionary algorithms Mohamed Amine Ben Abdallah, Imed Khemili, Nizar Aifaoui and Med Amine Laribi	1172
Safe and socially compliant robot navigation in crowds with fast-moving pedestrians via deep reinforcement learning Zhen Feng, Bingxin Xue, Chaoqun Wang and Fengyu Zhou	1212
IFE-net: improved feature enhancement network for weak feature target recognition in autonomous underwater vehicles Lei Cai, Bingyuan Zhang, Yuejun Li and Haojie Chai	1231
Outdoor LiDAR-inertial SLAM using ground constraints Yating Hu, Qigao Zhou, Zhejun Miao, Hang Yuan and Shuang Liu	1246
Oscillation-free point-to-point motions of planar differentially flat under-actuated robots: a Laplace transform method Michele Tonan, Alberto Doria, Matteo Bottin and Giulio Rosati	1262
FabricFolding: learning efficient fabric folding without expert demonstrations Can He, Lingxiao Meng, Zhirui Sun, Jiankun Wang and Max QH. Meng	1281
Design and motion mechanism analysis of screw-driven in-pipe inspection robot based on novel adapting mechanism Jihua Yin, Xuemei Liu, Youqiang Wang and Yucheng Wang	1297

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

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



https://doi.org/10.1017/S0263574724000584 Published online by Cambridge University Press