

Industrial Engineering

Robotics

Manufacturing Engineering

Robotic Systems and Applications



Editor in Chief

Vytautas Bučinskas	Vilnius Gediminas Technical University, (Lithuania)	vytautas.bucinskas@vilniustech.lt
--------------------	---	-----------------------------------

Editorial Board

Duarte Alves	Instituto Politécnico de Viana do Castelo, (Portugal)	duarte.alves@estg.ipvc.pt
Andrius Dzedzickis	Vilnius Gediminas Technical University, (Lithuania)	andrius.dzedzickis@vilniustech.lt
Modris Greitans	Institute of Electronics and Computer Science, (Latvia)	modris_greitans@edi.lv
Adam Idzkowski	Bialystok University of Technology, (Poland)	a.idzkowski@pb.edu.pl
Po Ting Lin	National Taiwan University of Science and Technology, (Taiwan)	potinglin223@gmail.com
Andrzej Milecki	Poznan University of Technology, (Poland)	andrzej.milecki@put.poznan.pl
Emil Novakov	Grenoble Alpes University, (France)	emil.novakov@univ-grenoble-alpes.fr
José Carlos Quadrado	Politécnico do Porto, (Portugal)	jcquadrado@gmail.com
Sebastian Schlund	Vienna University of Technology, (Austria)	sebastian.schlund@tuwien.ac.at
Roman Szewczyk	Warsaw University of Technology, (Poland)	roman.szewczyk@pw.edu.pl
Franz Wotawa	Graz University of Technology, (Austria)	wotawa@ist.tugraz.at

RSA Robotic Systems and Applications

Aims and Scope

RSA publishes high-quality articles concerned with fundamental and applied aspects in robotics. The Journal's scope encompasses original contributions based on analytical, computational, and experimental methods.

The list of principal topics:

- General issues in robotics
- Path planning
- Sensing and sensor fusion
- Robot application issues – equipment, computer vision, machine learning
- Robot integration into the greater system
- Common robot operation-lines
- Flocks and arrays
- Robot-human interaction
- Mathematical methods in robotics
- Microrobotics
- Robots in biomechanics
- Military and rescue robotics

All published papers are peer reviewed and crosschecked by plagiarism detection tools.

More information is available online <https://www.extrica.com/journal/rsa>

The journal material is referred:

EBSCO: <https://www.ebsco.com>

Scilit: <https://www.scilit.net>

Dimensions: <https://www.dimensions.ai>

Google Scholar: <https://scholar.google.com>

WanFang Data: <https://www.wanfangdata.com.cn>

JGate: <https://jgateplus.com>

CORE: <https://core.ac.uk>

TDNet: <https://www.tdnet.io>

WorldCat Discovery Services: <https://www.oclc.org/en/worldcat-discovery.html>

Crossref: <https://search.crossref.org>

Content is archived in **Martynas Mazvydas National Library of Lithuania**

Internet: <https://www.extrica.com>

E-mail: publish@extrica.com

Publisher: Extrica

RSA Robotic Systems and Applications

JUNE 2025. VOLUME 5, ISSUE 1, PAGES (1-49), ISSN ONLINE 2669-2473

Contents

RESEARCH ON MECHANICAL PART RECOGNITION METHOD BASED ON IMPROVED MASK R-CNN INSTANCE SEGMENTATION	1
KUI XIAO, LEI WANG, HAORAN XU, PENGCHAO ZHANG, HENG ZHANG	
FUZZY ADAPTIVE BACK STEPPING CONTROL OF WHEELED MOBILE ROBOT	12
M. HASANLU, M. SIAVASHI	
OPTIMUM KINEMATIC – DYNAMIC PERFORMANCE OF THE RECONFIGURABLE DELTA ROBOT THROUGH GENETIC ALGORITHM OPTIMIZATION	28
M. HASANLU, M. SIAVASHI	

SHORT DESCRIPTION ABOUT THIS CATEGORY

High-quality articles concerned with fundamental and applied aspects in robotics. The Journal's scope encompasses original contributions based on analytical, computational, and experimental methods.

