

CONTENTS

Introduction: Industrial AI for Industry 5.0	
..... Pál Varga, Kārlis Freivalds, Gian Antonio Susto, and Péter Olsz	3
Machine Learning in Industry 5.0	5
Image Processing: a Review on Industrial Applications	
..... Michał Affek, Manuel Barusco, Diāna Dupļevska, Kārlis Freivalds, Gergely Hollósi, ... Corinna Kofler, Michał Kopczyński, Ruba Almahasneh, Philip Newton, Guntis V. Strazds, ... Gian Antonio Susto, Gábor Szűcs, and Marek S. Tata	25
Anomaly and Fault Detection and Predictive Maintenance: a Review on Industrial Applications	
..... Davide Frizzo, Valentina Zaccaria, David Petrovic, Francesco Borsatti, Davide Sartor, ... Felice Russo, Genoveffa Marcario, and Gian Antonio Susto	44
Reinforcement Learning, Optimization and Scheduling in Industry 5.0: Overview and Case studies	
..... Alberto Sinigaglia, Riccardo De Monte, Patrick Stöckermann, ... Alessandro Immordino, Ilayda Celenk, Willem van Jaarsveld, Ivo Adan, Eric Weijers, ... Cas Rosman, Bibi de Jong, Kai Schelthoff, Bram Hoekstra, Laura Leja, Gian Antonio Susto, ... Oskars Teikmanis, and Karlis Freivalds	104
Robotics, Automation, and Process Management for Industrial Operations	
..... Fabian Lindner, Iraklis Varlamis, Katrīna Viltrake, Karl-Benedikt Reith, Sebastian Rank, ... Michał Affek, Germar Schneider, Rosa Leschly, Venugopal Ramadasu, Gerald Reiner, ... Pascal Herfort, Guntis V. Strazds, and Marek Tata	119
Large Language Models in Industry 5.0 – Multi-Case Experiences from the AIMS5.0 Project	
..... Csaba Hegedűs, Péter Olsz, Máté Bancsics, Dániel Ficzer, Alex Latipov, ... Mike Holenderski, Guntis V. Strazds, Belal Abu Naim, Yasin Ghafourian, Markus Tauber, ... Marta Bonik, Chris Damkat, David Dandolo, Chiara Masiero, Manuel Barusco, ... Gian Antonio Susto, Ruba Almahasneh, and Pál Varga	135

Contact information

President: **FERENC BANCICS** • elnok@hte.hu
Secretary-General: **GÁBOR KOLLÁTH** • kollath.gabor@hte.hu
Operations Director: **PÉTER NAGY** • nagy.peter@hte.hu

Indexing information

Infocommunications Journal is covered by Inspec, Compendex and Scopus.
**Infocommunications Journal is also included in the Thomson Reuters – Web of Science™ Core Collection,
Emerging Sources Citation Index (ESCI)**

Infocommunications Journal

Technically co-sponsored by IEEE Communications Society and IEEE Hungary Section

Supporters

FERENC BANCICS – president, Scientific Association for Infocommunications (HTE)

MTA200

HTE Infocommunications Journal welcomes
the 200th anniversary of the Hungarian Academy of Sciences
and gratefully acknowledges its continuous support
of the journal in recent years.



National Media and Infocommunications Authority | Hungary

The publication was also produced with the support of the NMHH.

Editorial Office (Subscription and Advertisements):
Scientific Association for Infocommunications
H-1051 Budapest, Bajcsy-Zsilinszky str. 12, Room: 502
Phone: +36 1 353 1027 • E-mail: info@hte.hu • Web: www.hte.hu

Articles can be sent also to the following address:
Budapest University of Technology and Economics
Department of Telecommunications and Media Informatics
Phone: +36 1 463 4189 • E-mail: pvarga@tmit.bme.hu

Publisher: PÉTER NAGY

HU ISSN 2061-2079 • Layout: PLAZMA DS • Printed by: FOM Media

www.infocommunications.hu