



**electronics**



*Special Issue Reprint*

## Computational Intelligence and Machine Learning

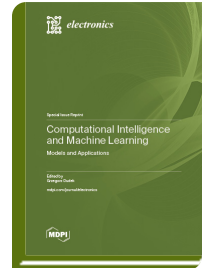
[www.mdpi.com/books/reprint/11045](http://www.mdpi.com/books/reprint/11045)

Edited by

Grzegorz Dudek

ISBN 978-3-7258-3895-0 (Hardback)

ISBN 978-3-7258-3896-7 (PDF)



This Special Issue presents a curated collection of ten research articles that reflect current trends and challenges in computational intelligence and machine learning. The selected works cover a broad spectrum of methods and applications, including personalized recommendation systems, social-aware filtering, human motion prediction, automatic speech recognition for under-resourced languages, chatbot frameworks for Arabic natural language understanding, anomaly detection in system logs, and meteorological forecasting. Across these contributions, several themes emerge. Many studies explore the integration of advanced learning architectures, such as transformers, graph neural networks, and retrieval-augmented generation, with domain knowledge to improve performance and generalization. Others focus on addressing practical challenges like data sparsity, bias in AI systems, and the need for lightweight models suitable for low-resource settings. The application domains span travel, healthcare, e-commerce, software engineering, and environmental monitoring, demonstrating the wide-ranging impact of modern AI techniques. Collectively, the papers emphasize not only technical effectiveness but also the importance of interpretability, fairness, and adaptability in real-world deployments. They exemplify the shift toward responsible and context-aware machine learning and offer methodological insights that are relevant for both academic research and industrial innovation.



Order Your Print Copy

You can order print copies at

[www.mdpi.com/books/reprint/11045](http://www.mdpi.com/books/reprint/11045)

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



## Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



## Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



## High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



## High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



## Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.