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Special Issue on

Advances in Computational Security and Cryptographic Technologies through Artificial Intelligence, Machine Learning, and Multimedia Analytics

Guest Editors

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FOREWORD

This special issue titled *"Advances in Computational Security and Cryptographic Technologies through Artificial Intelligence, Machine Learning, and Multimedia Analytics"* presents a collection of high-quality research contributions that explore the convergence of discrete mathematics, graph theory, cryptography, artificial intelligence, machine learning, multimedia analytics, and modern communication networks. The issue highlights the growing importance of mathematical foundations in addressing evolving cybersecurity challenges across next-generation digital infrastructures.

A significant portion of this special issue focuses on advanced cryptographic mechanisms for securing contemporary communication networks, including Software Defined Networks (SDN), Internet of Things (IoT), Wireless Sensor Networks (WSNs), Blockchain Environments, Healthcare Information Systems, Cloud-Edge Infrastructures, and Emerging 6G Communication Systems.

This special issue received an overwhelming response from researchers across academia and industry worldwide, with more than 200 manuscript submissions covering diverse aspects of mathematical modeling, artificial intelligence, cybersecurity, blockchain, intelligent communication systems, and computational intelligence. Each submission underwent a rigorous double-blind peer-review process conducted by subject experts to ensure originality, technical quality, and scientific significance. Following multiple rounds of careful evaluation, 29 high-quality research articles were selected for publication which encompass a broad spectrum of theoretical and applied research in computational security and cryptographic technologies.

The accepted papers present innovative methodologies, theoretical developments, and practical applications that significantly advance the fields of intelligent computational frameworks, secure cyber-physical systems, next-generation communication networks, and emerging digital technologies. The integration of artificial intelligence and machine learning with cybersecurity represents another major theme of this issue.

We extend our sincere appreciation to all authors for their valuable contributions, to the reviewers for their insightful comments and dedicated efforts, and to the editorial team for their continuous support throughout in bringing out this special issue. We are particularly thankful to Professor B. K. Dass, Chief Editor, for his constant support and encouragement during the publication process in the *Journal of Discrete Mathematical Sciences & Cryptography*, published by Taru Publications, New Delhi.

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