In recent years, emerging technologies in information and communication technology are fine-tuning existing infrastructure and operations to support network services and functionalities to meet the diverse needs of end-users. Again, dynamic management of modern computer and network resources, in particular, has promised flexible controlling functionalities to manage the forwarding elements like routers and switches. Apart from that, for providing Quality of Experience (QoE) and Quality of Service (QoS) in multimedia applications, Software Defined Networking (SDN) architecture is used for improving controllability, smartness, and flexibility. Also, advanced techniques such as artificial intelligence (AI) facilitate network congestion and signal propagation, which further boosts up central management and programmability of network resources. Thus AI-enabled SDN alleviates the global network states for providing level control for underlying network layers. It additionally makes a significant impact on the quality of multimedia communications.

Software-defined networking uses logically centralized programmable networks to simplify complex network optimization and traffic engineering tasks. The maturing Software Defined Networking (SDN) technology supports networks at unprecedented level for allowing the optimal embedded data flows solutions through central controller. It also enables suboptimal resource allocation that reduces resilient networks for overcoming random traffic spikes, traffic fluctuations, and link failures. Moreover, incorporating artificial intelligence (AI) technology and SDN improves performance metrics such as packet delay and loss ratio average throughput, thereby augmenting the superiority and effectiveness in multimedia systems. Furthermore, SDN architecture and AI provide good and reliable services for monitoring dynamic routing and making superior route decisions.

Yet, the most difficult challenge in using SDN in communication networks is calculating embedded data flows. Overcoming that, AI in SDN provides efficient network management, scalability cost savings, and gives greater reliability through automation. This special issue's ultimate objective is to promote intelligent information processing in communication networks with AI-enabled SDN networks. This special issue welcomes interdisciplinary researchers from a communication technology background to present novel and innovative solutions that facilitate further research on multimedia services and applications.

**Potential list of topics includes, but are not limited to:**
- An effective framework on SDN and AI for heterogeneous multimedia services.
- Evaluation of communication networks with intelligent SDN architecture.
- The adaptive role of AI and SDN for improving cognitive multimedia applications.
- Advances multimedia systems enabled with smart SDN.
- Designing advanced computing systems for multimedia services.
- New frontiers in multimedia application with AI and machine learning techniques.
- Recent trends in AI and SDN architecture for cloud-enabled multimedia systems.
- AI-enabled SDN architecture for information retrieval in multimedia applications.
- Ubiquitous AI-enabled SDN service for multimedia services.
- Application of intelligent AI tools for improving the security of multimedia-based communication systems

The special issue will consider original research articles, review articles, and case studies that address the above-mentioned topics. The articles should provide a clear and concise description of the problem, the proposed solution, and the results obtained. They should also provide a clear comparison with the existing state of the art and a discussion of the implications and future directions of the research.

**Tentative schedule of Submissions, Reviewing, and Publication:**
- Date of Submission Deadline – 31 October, 2023
- Date First Review Round Completed – 31 December, 2023
- Date Revised Manuscripts Due – 28 February, 2024
- Date of Final Notification – 30 April, 2024

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