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IEEE Transactions on Network Science and Engineering
Special Issue on Big Data and Artificial Intelligence for Network Technologies

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TOPIC SUMMARY:
Generation of huge amounts of data, called big data, across different sectors such as banking, healthcare, retail and education, among others, is creating the needs for efficient tools to manage those data. Artificial intelligence (AI) has become the powerful tools in dealing with big data with recent breakthroughs at multiple fronts in machine learning, including deep learning. Meanwhile, information networks are becoming larger and more complicated, generating a huge amount of runtime statistics data such as traffic load, resource usages. The emerging big data and AI technologies may include a bunch of new requirements, applications and scenarios such as e-health, Intelligent Transportation Systems (ITS), Industrial Internet of Things (IIoT), and smart cities in the term of computing networks. The big data and AI driven network technologies also provide an unprecedented patients to discover new features, to characterize user demands and system capabilities in network resource assignment, security and privacy, system architecture, modeling and applications, which needs more explorations. We believe that these explorations will greatly benefit the academia and Information and Communication Technologies (ICT) industries.

The topics of interest for this special issue include, but are not limited to:

- Big data and AI algorithms, models, architecture for networks and systems
- Big data and AI driven resource management in communication networks and systems
- Big data security and privacy in information networks
- IoT technologies using big data and AI
- Network architecture evolution based on big data and AI
- Big data and AI solution to network planning and design
- Network automation based on big data and AI
- Adaptive network protocol design and control based on big data and AI
- Network management, measurement, and diagnostic using big data and AI
- Network service and quality management using big data and AI
- Big data and AI for multimedia (image, audio, and video) and social networking
IMPORTANT DATES:
- Manuscripts due: 01/30/2018
- Peer reviews to authors: 05/15/2018
- Revised manuscripts due: 06/30/2018
- Second-round reviews to authors: 08/15/2018
- Final accepted manuscript due: 11/30/2018

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