IEEE Transactions on Industrial Informatics
CALL FOR PAPERS
for Special Section on

Opportunities and Challenges to Integrate AI and Big Data

Theme: Today, the availability of massive volumes and different sources of data coupled with rapid recent advancements in machine learning have begun to unleash new possibilities in Artificial Intelligence (AI). Both AI and Big Data are emerging research fields that have recently drawn much attention from computer science to social sciences and other disciplines. AI-powered algorithms empower data scientists to analyze Big Data and thereby exploit its full potential whereas Big Data enables AI specialists to comfortably design, validate and deploy AI models. Powered by AI, deep analysis of the Big Data would bring great benefits and opportunities to our societies. However, there are many challenges to integrate AI and Big Data for storing, searching, sharing, visualizing, analyzing, and learning.

This special issue aims to explore recent advances and disseminate emerging area of Big Data-intensive computing, learning, algorithms, networks, systems, and applications, to enable smart AI applications and systems. The research topic aims at original research papers in the field, covering new theories, algorithms, systems, as well as new implementations and applications incorporating state-of-the-art AI and Big Data techniques.

Topics include, but are not limited to, the following research topics and technologies:

- Novel AI algorithms for large volumes of data
- Innovative hardware and network architecture for AI from Big Data
- Data mining and management methods for massive volumes of data
- New methods for data analysis, modeling and visualization
- AI tools and applications for intelligent manufacturing systems
- Large-scale recommendation systems and social media systems
- Cloud/grid/edge computing for Big Data and AI
- High performance/parallel computing platforms for Big Data
- Big Data applications in AI, bioinformatics, multimedia, etc.
- Software systems to support Big Data and AI computing
- Energy-efficient Big Data and AI computing systems
- Computational modeling and data integration
- Big Data security, privacy and trust
- 5G and Networks for Big Data and AI systems
- Tools for complex distributed production systems
- Intelligent automation products and services

Manuscript Preparation and Submission

Follow the guidelines in "Information for Authors" in the IEEE-IES website: http://www.ieee-ies.org/pubs/transactions-on-industrial-informatics. Please submit your manuscript in electronic form through Manuscript Central web site: https://mc.manuscriptcentral.com/tii. On the submitting page #1 in popup menu of manuscript type, select: SS on **Opportunities and Challenges to Integrate AI and Big Data.**

Submissions to this Special Section must represent original material that has been neither submitted to, nor published in, any other journal. Regular manuscript length is 8 pages.

Note: The recommended papers for the section are subject to final approval by the Editor-in-Chief. Some papers may be published outside the special section, at the EIC discretion.

Timetable:	Deadline for manuscript submissions	July 30, 2020
	Expected publication date (tentative)	January 2021

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