IEEE Transactions on Consumer Electronics

Call for Papers

Special Section on "Smart Data Driven Modeling for Emerging Customer Applications in Mobile Edge Computing"

Theme:

Recent advances in Mobile Edge Computing (MEC) have driven the dramatic developments in key consumer electronics with higher connectivity and ultralow latency. In practice, the emerging MEC technologies changes the way to design customer electrics products with a variety of innovative services and applications, which leads to the popularization of various smart products on the market, such as smart phones, smart appliances, smart wearable devices, etc. The MEC-enabled consumer electronics has significantly increase the amount of data available in both physical and cyber worlds. Such big volume of consumer-generated data may reveal correlations between consumer behaviors and the development of MEC technology, which could create the new customer value and form the basis for useful and desirable emerging customer applications. However, the huge volume of data scale, complex application context, as well as prior domain knowledge in consumer electronics environment, make it challenging to fulfill smart consumer applications in MEC.

Smart Data Driven Modeling (SDDM) utilizes the input/output data measured from real-world systems to build an intelligent model to predict a system's response without the necessity of using predefined constitutive models. Thus, it could be applied to model consumer behaviors and intricate relationships from the complex consumer electronic big data. Incorporated with techniques of AI and machine learning, SDDM may contribute to a better understanding of the complex consumer electronic ecosystem, which could further help to develop more intelligent customer applications in MEC environment.

Topics of interest in this Special Section include (but are not limited to):

- Concepts, standardization, and models for MEC enabled emerging customer applications
- Computational offloading for cost-effective customer applications in MEC
- Advanced machine learning algorithms for data-driven customer applications in MEC
- Security, trust and privacy in MEC enabled customer behavior analysis
- Intelligent customer data mining, communication and integration in MEC
- Reliability and fault-tolerance for real-time customer applications in MEC
- Customer-related knowledge graph construction and utilization in MEC
- Lightweight customer preference analysis and prediction in MEC
- Industrial experience reports of MEC enabled emerging customer applications
- Society, ethics and laws associated with customer data integration in MEC

Important dates:

- End of submission of Manuscripts: **July 30**, 2023
- Expected publication date (tentative): May 2024

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