**Workshop**

**Title:** Challenges and applications of advanced big data security technologies（BDS）

**Abstract:**

With the deeply integration of big data and digital economy, advanced technologies, such as 5G, deterministic network, Internet of Energy, multimodal system and so on, form promote each other with big data technology, resulting in a variety of new applications, new models and new scenarios. The frequent cross domain, cross system and cross ecosystem exchanges of user big data have brought new challenges to data security protection, while there are high security requirements in the aspects of big data collection, transmission, sharing, fine-grained access control in the process of use, efficient encryption and decryption, data privacy protection, etc. Aiming at the challenges of new big data security technologies and their application scenarios, this workshop studies new big data security algorithms, security protocols, big data systems, as well as new problems, new solutions, new applications in typical application scenarios such as Internet of Energy, smart grid, social network, etc.. Focusing on cryptographic algorithms, information hiding and detection algorithms, privacy data mining and filtering algorithms, quantum cryptographic algorithms, authentication protocols, the security analysis theory and

method of key exchange and management protocol, secure multi-party computing protocol, big data security protocol, trusted computing, privacy computing, access control, security architecture, distributed system security, and information system security evaluation theory and method.

**Scope and Topics:**

The proposed workshop on "Challenges and applications of advanced big data security technologies" aims to provide a platform to academia researchers as well as industry partners where they can exchange ideas and solutions on recent research and future directions for the advanced big data security technologies. This workshop solicits original research papers that addresses the following non-exhaustive list of topics:

**Topics:**

➢ Big data security technology in 5G slicing and vertical applications.

➢ Privacy computing model, security knowledge map, distributed security computing technology, blockchain and other technologies and applications in big data management system

➢ Research on big data security application technology and solutions for industry scenarios，such as electric power information and communication systems and so on.

➢ Security technology and application in digital twin system.

➢ Security and communication technology of the power Internet of Things.

➢ Endogenous security in multimodal network environment.

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